

May 10, 2011

WHPacific Inc.  
12596 Bayaud Avenue  
Suite 200  
Lakewood, Colorado 80228

Attention: Mr. Mike Galuzzi, P.E.

Subject: Limited Phase II Environmental Site Assessment  
40<sup>th</sup> Street Outfall  
South Platte River to Blake Street  
Denver, Colorado  
Project No. DN44,666-205

This letter was prepared by CTL | Thompson, Inc. (CTL) for WHPacific Inc. and presents the results of the Limited Phase II Environmental Site Assessment (ESA) for a portion of the proposed 40<sup>th</sup> Street Outfall, specifically the western portion, generally located west of 40<sup>th</sup> Street and Brighton Boulevard, east of the South Platte River.

#### Introduction

The purpose of our investigation was to evaluate possible human health and environmental concerns related to the proposed construction activities. The site has been documented as being located within the Vasquez Boulevard and Interstate 70 Superfund Site (VB/I-70), Operable Unit 2 (OU2). Historically areas associated with the VB/I-70 Superfund Site were part of a major smelting center of the Rocky Mountain West. Three smelting plants: Omaha-Grant, Argo, and Globe, operated in the area for varying lengths of time beginning as early as 1870, refining Gold, Silver, Copper, Lead and Zinc. The VB/I-70 OU2 is where the Omaha-Grant Smelter was located and roughly includes the area encompassing the Denver Coliseum, Pepsi Bottling and the Forney Transportation Museum. The plan for the current outfall alignment is through portions of the Pepsi Bottling and Denver Coliseum parking lots, and Globeville Landing Park.

Unrelated to the VB/I-70 OU2 is a solid waste landfill that has been documented as being located in areas of the Pepsi Bottling and Denver Coliseum parking lots, and Globeville Landing Park.

#### Site Description

The site is a mix of commercial and City and County of Denver property. This includes Amen Packaging, Pepsi Bottling, the west parking lot of the Denver Coliseum, and portions of city Rights-of-Way along Brighton Boulevard, McFarland Drive, Arkins and in Globeville Landing Park, which are located within Section 23, Township 3 South, Range 68 West of the 6th Principal Meridian, in Denver County, Colorado. The site location is presented in Figure 1 (Topographic Area Map). Figure 2 (Site Plan) present monitoring well locations, outfall alignment, roads, buildings and current topography. Figure 3 (Soil Sample Results) presents a summary of the analytical soil data. Figure 4



(Ground Water Results) presents a summary of the analytical ground water data. Figure 5 (Ground Water Elevation Map) presents ground water elevations and approximate flow direction. Figure 6 (Asbestos Sample Results) presents the location of the asbestos samples collected and the results.

### Previous Assessments

In 2009 Engineering Support Management, Inc. (EMSI) prepared a Remedial Investigation (RI) for the VB/I-70 Superfund Site, Operable Unit 2. Generally the investigation summarized previous sampling and assessment work that had been conducted in and around OU2 of the VB/I-70 Superfund Site. In addition, EMSI collected additional soil samples to evaluate surface and subsurface soil conditions as it related to Arsenic, Lead, Cadmium and Zinc. CTL reviewed the available data presented within the investigation to help evaluate potential environmental and human health concerns related to the construction of the new outfall.

In 2010, Brown and Caldwell conducted a Limited Subsurface Investigation related to the construction of the 40<sup>th</sup> Street outfall. Brown and Caldwell generally drilled test holes in the vicinity of the proposed 40<sup>th</sup> Street Outfall. Soil samples were collected during the drilling of the test holes, which were then completed as temporary wells. Ground water samples were collected. In addition, Brown and Caldwell sampled MW-1 and MW-6, which were monitoring wells previously installed by others as part of investigations associated with VB/I-70,OU2. A summary of the results of this investigation are provided on the attached figures. Generally, findings from the Brown and Caldwell report are similar to this limited assessment.

CTL previously conducted a Geotechnical Investigation at the site dated July 27, 2010. The investigation included the installation of 10 test holes. During the installation of select test holes a petroleum odor was encountered. Based on ground water elevations measured during drilling and several days after, it was concluded that ground water could be encountered during excavations closer to the Platte River. As a result, temporary construction dewatering could become necessary.

### Field Investigation

On March 30 and 31, 2011, CTL conducted environmental and geotechnical drilling at the site. A total of 13 additional test holes were drilled at the site, during which soil was collected for geotechnical testing.

In the process of the drilling of six of the test holes at the site, soils were screened and sampled for environmental purposes, and these test holes were completed as monitoring wells to sample ground water. The six test holes completed as monitoring wells were drilled by Dakota Drilling using a truck mounted auger equipped with 4" solid stem or a 6" hollow stem auger, and are specifically the focus of this report. Geotechnical analysis and recommendations related to design will be discussed in our concurrent Geotechnical Investigation report issued under Project No. 44,666-125-R2.

The monitoring wells were drilled to depths between 31 and 42 feet below ground surface (bgs). Our observations of the test holes and monitoring well construction summaries are presented in Attachment A: Logs of Exploratory Borings and Well Construction.



Soil generally consisted of varying depths of fill material which varied from 0-5' along Brighton Boulevard to 0-25' within Globeville Landing Park. The test holes conducted in the Denver Coliseum Parking lot and Globeville Landing Park contained various types of building materials and trash mixed with the fill. We primarily observed brick, wood, flooring material, roofing material, and concrete in MW-4 thru MW-6. Beyond the fill we generally observed native sandy-clay soil with gravel, and some cobbles from generally 15 to 40 feet along Brighton Boulevard, and from 15 to 30 feet closer to the Platte River. Claystone bedrock was observed during the drilling of the two monitoring wells within the Denver Coliseum parking lot.

### Field Screening

We used a MiniRae photo ionization detector (PID) and our visual and olfactory observations to field-screen soils observed during drilling and during the excavation of the test pits. The PID was calibrated to isobutylene. We screened soil samples from varying depths in the test holes. During field-screening, samples were placed in resealable plastic bags for testing with the PID. The bagged samples were warmed and the vapor headspace inside the bags was then field-screened. The PID detects total vapor volatile organic compounds with the ionization potential of less than or equal to 10.6 eV. The PID does not provide a direct measure of compounds in the samples and it does not identify specific compounds, therefore, the results of field-screening are identified in units of parts per million volume (in air) (ppmv).

PID readings measured during our investigation generally ranged from approximately 0.0 to 74.7 ppmv. We collected one soil sample from each monitoring well location at varying depths. The samples were collected to determine concentrations of metals, volatile organics and semi-organics. A summary of these soil sample results is presented in Table I.

Review of the 2010 Brown and Caldwell report indicates Methane gas is present associated with the historical landfill portion of the site. During our drilling, we used a MSA Sirius four gas meter to screen vapors escaping the test holes. Specifically we were observing the Lower Explosive Limit or %LEL which is the percent of the concentration where there is enough methane to present an explosive hazard. For Methane the %LEL is 5, meaning 5 percent methane in air is an explosive hazard. During drilling we were obtaining levels of 100% LEL at the ground surface, meaning the 5 percent had been reached.

Environmental protocol was used by CTL during drilling and sampling. Gloves and plastic bags were used by CTL to obtain and screen subsurface soils. A dedicated disposable bailer was used to collect each water sample. Each well was developed prior to sampling and a minimum of three well volumes were purged prior to collecting a ground water sample. The soil and ground water samples were collected in laboratory-provided containers, stored on ice, and submitted under chain of custody to Accutest Laboratories in Wheat Ridge, Colorado for analysis for Volatile Organic Compounds, (VOCs) by EPA Method 8260, Semi-Volatile Organic Compunds by EPA Method 8270, Hexavalant Chromium by 3500CR and Metals by EPA Methods 6010, 200.7 and 200.8.



## Laboratory Results and Discussion – Chemical Contaminates

The laboratory results did identify detectable concentrations of Volatile Organic Compounds, Semi-Volatile Organics, and Metals in the collected soil and/or ground water samples. Table I presents a summary of the soil sample results and Table II presents a summary of the ground water results. The tables contain only metals, volatiles and semi-volatiles detected. The complete analytical results are presented in Attachment B.

**TABLE I**  
**Summary of Soil Sample Results**

Analyte	CTL   Thompson Monitoring Well Ids. (CTL-)						Colorado Soil Evaluation Values – Worker (mg/Kg)
	MW-1 (TH-13) @ 10-12'	MW-2 (TH-14) @ 5-7'	MW-3 (TH-15) @17'	MW-4 (TH-17) @5'	MW-5 (TH-18) @7"	MW-6 (TH-19) @22-25'	
<b>Volatile Organic Compounds</b>							
p-Dichlorobenzene (1,4-Dichlorobenxene)	ND	ND	ND	0.176 J	ND	ND	7.2
Ethylbenzene	ND	ND	ND	0.163	ND	ND	1000
Toluene	ND	ND	ND	0.0869 J	ND	ND	1000
Xylene (total)	ND	ND	ND	0.483	ND	ND	1000
<b>Metals</b>							
Arsenic	<b>1.6 J**</b>	<b>2.2 J**</b>	<b>7.9**</b>	<b>6.8**</b>	<b>3.4**</b>	<b>11.2**</b>	1.6
Barium	32	76.8	59.0	132	93.4	197	160,000
Cadmium	0.29 U	1.2	1.7	1.2	0.78 J	2.4	810
Chromium	3.9	11.4	9.1	12.3	8.4	8.9	1,500,000
Lead	22.3	11.5	14.5	205	21.2	162	800
Mercury	0.025 J	0.017 J	0.053 J	0.16	0.021 J	0.37	310
Selenium	0.55 U	0.55 U	0.55 U	0.59 U	0.67 U	0.63 U	5100
Silver	0.16 J	0.31 J	0.24	0.69 J	0.40 J	0.99 J	5100
Iron	3410	10900	7840	17700	8690	17500	310000
Zinc	39.6	189	54.7	337	49	162	310000
Copper	5.9	7.4	9.8	72.2	12	33	41000
Manganese	55.2	116	165	257	226	174	16000

Notes: mg/kg – milligram per kilogram or parts per million (ppm)

ND – None Detected

Results in Bold exceed the standard

J – Indicates a result ≥ Method Detection Limit but < Reporting Limit

U – Indicates a result < Method Detection Limit

\*\* - For many locations in Colorado, naturally occurring concentrations of arsenic in soil are expected to be higher than the risk-based value listed by CDPHE. If adequate background sampling is available that confirms the naturally occurring background concentrations of arsenic adjacent to the facility is higher than the CDPHE value, the background concentration may be used for site screening and remediation purposes.



**TABLE II**  
**Summary of Ground Water Sample Results**

Analyte	CTL   Thompson Monitoring Well Ids. (CTL-)						Regulation No. 41 Ground Water (ug/L)	Regulation No. 31 Surface Water (Water and Fish) (ug/L)
	MW-1 (TH-13)	MW-2 (TH-14)	MW-3 (TH-15)	MW-4 (TH-17)	MW-5 (TH-18)	MW-6 (TH-19)		
<b>Volatile Organic Compounds</b>								
Chloroform <sup>1</sup>	4.1	1.1 J	2.6	ND	ND	ND	3.5	3.4
PCE	1.1 J	ND	ND	1.2 J	ND	26.3	5.0	0.69
Cis-1,2-DCE	ND	ND	ND	0.46 J	ND	31.6	70	NS
Ethylbenzene	ND	ND	ND	ND	ND	0.39 J	700	530
TCE	ND	ND	ND	ND	ND	10.0	5.0	2.5
Xylene	0.99 J	0.61 J	0.73 J	0.75 J	ND	0.71 J	1400	NS
<b>Semi-Volatile Organic Compounds</b>								
Naphthalene	ND	ND	ND	ND	ND	1.2	140	140
<b>Total Metals by 200.8</b>								
Arsenic	18.2	22.1	32.7	15.4	8.5	57.3	-	0.02
Barium	1000	822	547	150	1260	1040	-	NS
Cadmium	15.7	12.4	3180	5.8	35.7	29.2	-	NS
Chromium	12.8	9.5 J	5.7 J	0.31 U	9.1	7.4	-	NS
Copper	183	232	96.5	8.3	49.5	44.5	-	1300
Iron	5950	7440	2670	2580	56400	35800	-	NS
Lead	26.8	2.2	17.4	26.3	1450	573	-	NS
Manganese	3080	3190	1250	2300	1360	5640	-	NS
Mercury	0.014 U	0.033 J	0.63	0.014 U	0.038 J	0.014 U	-	NS
Selenium	5.8	6.3	10.7	14.1	7.3	88.7	-	170
Silver	0.13 J	0.11 J	0.11 J	0.021 J	0.082 J	0.15 J	-	NS
Zinc	388	337	6430	121	2680	503	-	7400
<b>Dissolved Metals by 200.7*</b>								
Arsenic	5.9 U	7.2 J	9.5 J	15.5 J	7.6 J	11.7 J	10	-
Barium	54.5	113	49.4	121	548	591	2000	-
Cadmium	0.62 U	0.62 U	264	1.9 J	0.90 J	0.62 U	5	-
Chromium	1.0 J	1.1 J	1.3 J	0.80 J	0.60 J	1.7 J	100	-
Iron	17.9 J	27.3 J	12.5 J	28.6 J	23300	1000	300	-



**Summary of Ground Water Sample Results  
(continued)**

Analyte	CTL   Thompson Monitoring Well Ids. (CTL-)						Regulation No. 41 Ground Water (ug/L)	Regulation No. 31 Surface Water (ug/L)
	MW-1 (TH-13)	MW-2 (TH-14)	MW-3 (TH-15)	MW-4 (TH-17)	MW-5 (TH-18)	MW-6 (TH-19)		
<b>Dissolved Metals by 200.7*</b>								
Lead	1.8 U	1.8 U	1.8 U	3.1 J	11.7 J	4.6 J	50	-
Manganese	26.5	2.2 J	<b>92.7</b>	<b>2140</b>	<b>775</b>	<b>3370</b>	50	-
Mercury	0.022 J	0.041 J	0.18	0.014 U	0.014 U	0.030 J	2	-
Selenium	5.7 U	5.9 J	5.7 U	5.7	5.7 U	5.7 J	20	-
Silver	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	50	-
Zinc	1.4 J	1.4 U	216	31.5	53.3	10.6 J	2000	-
Hexavalent, Chromium	<10	<10	<10	<10	<50 <sup>a</sup>	<10	21	50

Notes:

PCE – Tetrachloroethene  
TCE – Trichloroethene  
Cis 1,2 - DCE - Cis-1,2-Dichloroethene  
ND – None Detect

NS – No Standard Provided

Bold – Indicates concentrations which exceed Regulation 41 Basic Ground Water Standard.

Italics – Indicates concentrations which exceed Regulation 31 Basic Standards for Surface Water.

Sample Results presented in micrograms per liter (ug/l) or parts per billion (ppb).

1 – Compound is a typical lab contaminant.

J – Indicates a result that is  $\geq$  method of detection but < reporting limit.

U – indicates a result < method detection limit,

\* - All samples were filtered at the laboratory to prevent cross-contamination.

<sup>a</sup> – Dilution factor of 5 required due to matrix interface.



The results of the soil sampling indicate the presence of select VOCs in the area of MW-4. The concentrations of these VOCs were less than the Colorado Department of Public Health and Environment (CDPHE) – Colorado Soil Evaluation (CSVE) standard for residential and worker. We mention that the values are below residential standards, because from recent conversations with City and County of Denver, Department of Environmental Health, they indicated that soil being used as backfill needs to be below the residential standard.

Arsenic was detected in the soil samples collected from all sampled test holes, at or above the CSVE standard for worker. However, baseline Human Health Risk Assessment for the VB/I-70 Superfund site demonstrated that the natural background soil conditions for arsenic in the Denver area may be as high as 15 mg/Kg (EPA, 2001). Since the arsenic concentrations in the soil samples are below 15 mg/Kg, the detected arsenic in the soil samples likely reflects the natural background conditions for arsenic at the site and does not represent an exceedance of the standard.

The soil samples collected from MW-4 and MW-6 indicated total lead concentrations were identified at concentrations greater than 20 times the Toxicity Characteristic Leachate Procedure (TCLP). However, Brown and Caldwell in 2010 had similar results from soil collected select locations and as part of their study, had the samples which exceed 20 times the TCLP value further analyzed by TCLP analysis. The results of the sampling were below 5 mg/L and therefore deemed suitable for offsite disposal as a non-hazardous landfill.

VOCs were detected in the ground water samples collected at the site. Of those VOCs detected, Chloroform, Tetrachloroethene (PCE) and Trichloroethene (TCE) exceed CDPHE Regulation 41. PCE and TCE exceeding the Standard were found in the sample collected from the Globeville Landing Park (MW-6). This sample from MW-6 also contained detectable amounts of Cis-1,2 – Dichloroethene (Cis-1,2-DCE), Ethylbenzene, and Xylene. Chloroform was found exceeding the standard by Brighton Boulevard and 40<sup>th</sup> Street (MW-1) and at detectable amounts in other wells adjacent to Brighton Boulevard (MW-2 and MW-3). Finally, low levels of PCE, Cis-1,2-DCE and Xylene was found in one of the wells installed in the Denver Coliseum parking lot (MW-4).

Water samples were also evaluated for dissolved and total metals, primarily to evaluate potential treatment issues related to the construction dewatering activities. The results of the sampling generally indicated Arsenic and other metals in exceedance of State Ground Water and Surface Water Regulations. This is further discussed later within this report.

### Laboratory Results and Discussion – Asbestos

A total of four asbestos samples were collected of suspect building materials observed in soil cuttings produced during drilling. These samples were collected from MW-4, MW-5 and MW-6 as these wells were installed within the area of the former solid waste landfill area. The suspect materials tested and the results of the testing are summarized in Table III, and the complete analytical results are presented in Appendix B.



**Table IV**  
**Summary of Asbestos Sampling Results**

Monitor Well ID	Sample Id	Material Description by Layer	Asbestos Content (%)
MW-4 (TH-17)	TH-17-FM-1	A – Red multi-colored sheet vinyl with black fibrous backing	ND
MW-4 (TH-17)	TH-17-PM-1	A – Brown fibrous woven material w/brown soil	ND
MW-5 (TH-18)	TH-18-FT-1	A – Tan granular material	ND
MW-6 (TH-19)	TH-19-RM-1	A – Black tar with black fibrous tar	ND

Notes: ND – None Detected

#### Construction Dewatering

Based on the scope of the project it is assumed there may be construction dewatering points for the project. The dewatering points to the storm sewer likely will be within Segment 16c of the Upper South Platte River Sub-basin, South Platte River Basin, found in the Classifications and Numeric Standards for the South Platte River Basin (Regulation No. 38; last updated effective March 30, 2009). Segment 16c is Use Protected, and is classified for the following beneficial uses:

- Aquatic Life;
- Class 2 Warm;
- Recreation Class 1a; and,
- Agricultural.

Based on ground water elevations and proposed final grade elevations documented in the Plan Sheets provided by WHPacific Inc., it generally appears areas closer to the South Platte within the Denver Coliseum parking lot and Globeville Landing Park may encounter ground water during excavation. Based on the ground water results, if the ground water is collected for discharge in this area, it would likely need to be treated prior discharge to the storm sewer.

#### Conclusions and Recommendations

Based on the results of this limited sampling and evaluation at the site, as well as review of previous assessments within the area of the site, the following can be concluded:

- The VOCs identified in the soil samples are below CSEV – worker standards.
- Generally our study did identify Arsenic in soil at levels greater than CSVE for Workers, however not above the accepted background levels for the VB/I-70 OU2 of 15 mg/Kg.



- Lead was detected in all the soil samples collected as part of our study, all below the CSVE for worker and below the background limit for VB/I-70 OU2 of 400 mg/Kg. Results for two of the samples collected from MW-4 and MW-6 do exceed 20 times the TCLP. We anticipate that further analysis by TCLP (for waste characterization would pass and not be a likely hazardous waste issue).
- Cadmium was identified in soil samples collected as part of this study but all well below CSVE for worker standard and less than 20 times the TCLP concentration of 1.0 mg/L.
- The ground water in the vicinity of the Globeville Landing Park has been impacted by PCE and TCE above Regulation No. 41.
- Arsenic, Iron, Manganese, and Cadmium were found in ground water at levels greater than Regulation No. 41.
- Asbestos containing materials (ACMs) were not identified as part of this assessment; however there is a relatively high possibility ACMs are present within the historical landfill.
- Based on the provided finished grades and the measured depth to ground water, it is likely the water quality ponds closer to the South Platte River adjacent to the new McFarland Drive alignment, and in the Globeville Landing Park, potentially could impact ground water.
- Review of the 2010 Brown and Caldwell report indicates Methane gas is present associated with the historical landfill portion of the site. During our drilling, we used a MSA Sirius four gas meter to screen vapors escaping the test holes. Specifically we were observing the Lower Explosive Limit or %LEL which is the percent of the concentration where there is enough methane to present an explosive hazard. For Methane the %LEL is 5, meaning 5 percent methane in air is an explosive hazard. During drilling we were obtaining levels of 100% LEL at the ground surface, meaning the 5 percent had been reached.

It should be noted that not all laboratory results presented in the 2009 EMSI report were collected during the 2009 RI, specifically adjacent to Brighton Boulevard. These samples were a summary of previous investigations and as a result the laboratory data of metal varies.

Based on the results of our limited assessment, review of the proposed construction plan and the 2009 EMSI and 2010 Brown and Caldwell investigations, we have the following recommendations:

- The City and County of Denver Asbestos Contaminated Soils Standard Operating Procedures (SOP) should be utilized for this project. A site specific addendum to the SOP should be developed for this project, mainly for the areas where documented fill and debris relating to the historical landfill were observed. The site specific addendum will outline procedures



and segregation methods for handling soils, which may be found to be impacted by asbestos containing materials. The addendum will be tailored to address the site's specific construction procedures that will impact site soil and ground water. The SOP requires that a Certified Asbestos Building Inspector be on site during excavation activities.

- Either as a separate document or as part of the addendum, a Materials Management Plan (MMP) should be developed for the project area, again mainly for the areas of the site closer to the South Platte. This MMP should serve as a "how-to" guide for the contractor as it relates to handling chemically contaminated soil and ground water. The MMP should also address procedures and monitoring related to potential Methane gas issues. During construction it is recommended that a qualified environmental professional be on site to assist with the implementation of the MMP, specifically in the areas of the Coliseum Parking lot and Globeville Landing Park.
- For construction activities that may impact ground water, the MMP should discuss processes to prevent human exposure and environmental release. If construction dewatering will be conducted, a permit under the Colorado Discharge Permit System (CDPS) will be needed, and as a result remediation of the water primarily for Arsenic, would be required prior to its discharge from the site.

## LIMITATIONS

This letter was prepared for the use of the WHPacific Inc in evaluating soil and shallow ground water quality at selected on-site locations. Our sampling and analytical plan was designed using previously obtained environmental background information and our judgment for the performance of a limited subsurface soil and ground water evaluation. Chemical analyses were performed by Accutest Laboratories in Wheat Ridge, Colorado for specific parameters during this investigation. Asbestos analyses were performed by Reservoirs Environmental Laboratory in Denver, Colorado. The accuracy and reliability of environmental studies are a reflection of the number and type of samples taken and extent of the analyses conducted by CTL. This investigation does not result in any guarantee that the site is free and clear of hazardous or toxic materials other than those that may be indicated by CTL in this report. This study did not evaluate potential issues related to surface and ground water mixing as a result of infiltration of water from the water quality ponds to shallow ground water.

We believe our environmental site evaluation was conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the locality of the project. No warranty, express or implied, is made by CTL.



If you have any questions, or need additional information or assistance with future evaluation of the site, please feel free to call.

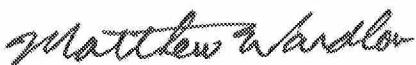
Sincerely,

CTL | THOMPSON, INC.



**Nick Talocco, P.E.  
Environmental Staff Engineer**

Reviewed by:



**Matthew L. Wardlow, P.E.  
Environmental Department Manager**

NT:MLW/nt/nt  
(6 copies)

via email: [mgaluzzi@whpacific.com](mailto:mgaluzzi@whpacific.com)



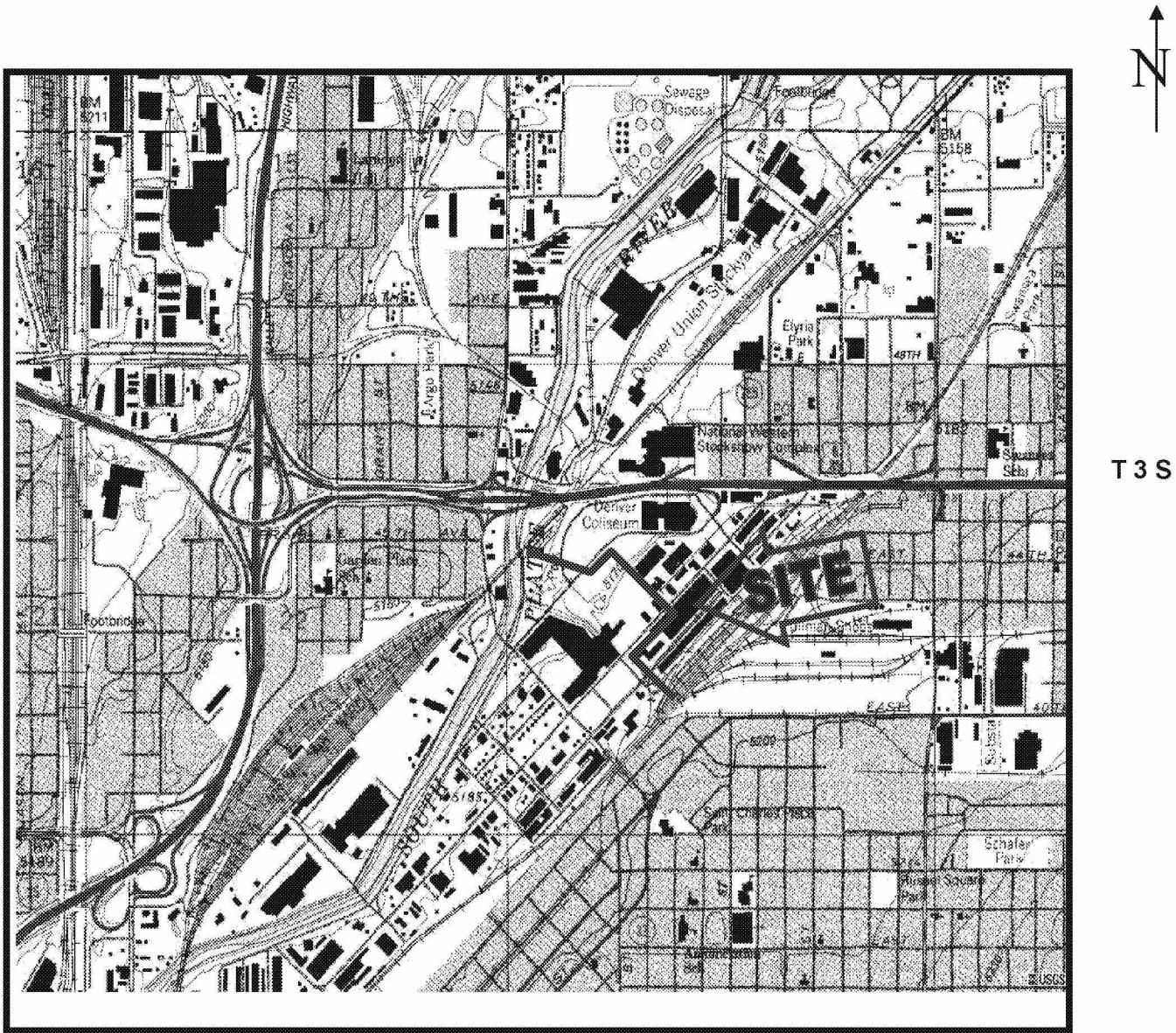
## REFERENCES

Geotechnical Investigation, 40<sup>th</sup> Street Outfall Reaches 1 and 2, Northwest of 40<sup>th</sup> Street and Blake Street to Globeville Landing Park, Denver, Colorado, Prepared by CTL | Thompson, dated July 27, 2010.

High Street Limited Subsurface Investigation, Prepared by Brown and Caldwell, dated May 28, 2010.

Vasquez Boulevard, I-70 Superfund Site Operable Unit 2 Remedial Investigation, Prepared by Engineering Support Management, Inc., dated December 16, 2009.

Vasquez Boulevard, I-70 Superfund Site Operable Unit 2, Summary Street, Prepared by EPA, dated February 2010.



R 68 W

Scale: 1" ~ 2200'  
Approximate Site Location

Source:

U.S.G.S. Topographic Map  
Commerce City Quadrangle, Colorado  
1981

WHPACIFIC, INC  
LIMITED PHASE II ESA  
40<sup>th</sup> STREET OUTFALL  
CTL PROJECT NO. DN44666-205

Topographic Area Map  
Fig. 1



#### LEGEND:

- HS-01 SOIL AND GROUNDWATER SAMPLE LOCATION INSTALLED BY BROWN AND CALDWELL 2010
- MW-1 SOIL AND GROUNDWATER SAMPLE LOCATION INSTALLED AS PART OF VB/I-70 OU2 ASSESSMENTS
- MW-2 CTL MONITORING WELL LOCATION
- 5170 EXISTING GROUND SURFACE ELEVATION (FEET)

0 150 300'  
SCALE: 1" = 300'

**Site Plan**

Fig. 2



CTL MW-1	CTL MW-2	CTL MW-3
ARSENIC 1.6	ARSENIC 2.2	ARSENIC 7.9
CTL MW-4		CTL MW-5
ARSENIC	6.8	ARSENIC 3.4
P-DICHLOROBENZENE	0.1769	
ETHYLBENZENE	0.163	
TOLUENE	0.8693	
XYLENE	0.483	

HS-01	
BENZO(A)ANTHRACENE	<0.0076
BENZO(A)PYRENE	0.0054
BENZO(B)FLUROANTHENE	0.0064
DIBENZO(A,H)ANTHRACENE	<0.0076
INDENO(1,2,3-CD)PYRENE	<0.0076
ARSENIC	3.5

HS-02	
BENZO(A)ANTHRACENE	0.698
BENZO(A)PYRENE	0.625
BENZO(B)FLUROANTHENE	0.599
DIBENZO(A,H)ANTHRACENE	<0.0069
INDENO(1,2,3-CD)PYRENE	0.358
ARSENIC	3.7

HS-03	
BENZO(A)ANTHRACENE	<0.0069
BENZO(A)PYRENE	<0.0069
BENZO(B)FLUROANTHENE	<0.0069
DIBENZO(A,H)ANTHRACENE	<0.0069
INDENO(1,2,3-CD)PYRENE	<0.0069
ARSENIC	<2.1

HS-04	
BENZO(A)ANTHRACENE	<0.0074
BENZO(A)PYRENE	<0.0074
BENZO(B)FLUROANTHENE	<0.0074
DIBENZO(A,H)ANTHRACENE	<0.0074
INDENO(1,2,3-CD)PYRENE	<0.0074
ARSENIC	2.5

HS-05	
BENZO(A)ANTHRACENE	<0.008
BENZO(A)PYRENE	<0.008
BENZO(B)FLUROANTHENE	<0.008
DIBENZO(A,H)ANTHRACENE	<0.008
INDENO(1,2,3-CD)PYRENE	<0.008
ARSENIC	2.4

HS-06	
BENZO(A)ANTHRACENE	0.0441
BENZO(A)PYRENE	0.0423
BENZO(B)FLUROANTHENE	0.0431
DIBENZO(A,H)ANTHRACENE	0.0054
INDENO(1,2,3-CD)PYRENE	0.023
ARSENIC	4.3
LEAD	102
TCLP LEAD	<0.05

HS-07	
BENZO(A)ANTHRACENE	<0.0068
BENZO(A)PYRENE	<0.0068
BENZO(B)FLUROANTHENE	<0.0068
DIBENZO(A,H)ANTHRACENE	<0.0068
INDENO(1,2,3-CD)PYRENE	<0.0068
ARSENIC	<1.9

HS-08	
BENZO(A)ANTHRACENE	1.45
BENZO(A)PYRENE	1.85
BENZO(B)FLUROANTHENE	1.55
DIBENZO(A,H)ANTHRACENE	0.267
INDENO(1,2,3-CD)PYRENE	0.936
ARSENIC	7.4
LEAD	176
TCLP LEAD	0.94



0 150 300  
SCALE: 1" = 300'

#### LEGEND:

- SAMPLE LOCATION  
INSTALLED BY BROWN AND CALDWELL 2010
- ◆ SAMPLE LOCATION INSTALLED  
AS PART OF VB/I-70 OU2  
ASSESSMENTS
- CTL MONITORING WELL  
LOCATION
- 5170 EXISTING GROUND  
SURFACE ELEVATION (FEET)

NOTES: RESULTS PRESENTED IN  
mg/kg MILLIGRAMS/KILOGRAM  
TCLP LEAD RESULTS  
PRESENTED IN mg/L  
MILLIGRAMS/LITER

## Summary of Soil Sample Results

Fig. 3



CTL MW-1	
CHLOROFORM	4.1
PCE	1.1
XYLENE	0.89
TOTAL ARSENIC	22.1
TOTAL ARSENIC	18.2
CTL MW-2	
CHLOROFORM	1.1
XYLENE	0.81
TOTAL ARSENIC	32.7
DISSOLVED CADMIUM	284
DISSOLVED MANGANESE	92.7
CTL MW-3	
CHLOROFORM	2.6
XYLENE	0.73
TOTAL ARSENIC	32.7
DISSOLVED CADMIUM	284
DISSOLVED MANGANESE	92.7
CTL MW-4	
PCE	1.2
CIS-1,2-DCE	0.48
XYLENE	0.75
TOTAL ARSENIC	18.4
DISSOLVED MANGANESE	2140
CTL MW-5	
TOTAL ARSENIC	8.8
DISOLVED IRON	23300
DISOLVED MANGANESE	775
HEXAVALENT CHROMIUM	<50
CTL MW-6	
PCE	28.3
CIS-1,2-DCE	0.38
TCE	19.0
XELENE	0.71
TOTAL ARSENIC	57.3
DISSOLVED IRON	1800
DISSOLVED MANGANESE	3320
NAPHTHALENE	1.2
HS-01	
CHLOROFORM	<2.0
TETRACHLOROETHYLENE	24.8
TRICHLOROETHYLENE	5.8
CADMIUM	<10
HS-02	
CHLOROFORM	1.1
TETRACHLOROETHYLENE	1.0
TRICHLOROETHYLENE	<2.0
CADMIUM	<10
HS-03	
CHLOROFORM	3.1
TETRACHLOROETHYLENE	2.8
TRICHLOROETHYLENE	<2.0
CADMIUM	18.2
HS-04	
CHLOROFORM	8.0
TETRACHLOROETHYLENE	<2.0
TRICHLOROETHYLENE	<2.0
CADMIUM	109
HS-05	
CHLOROFORM	2.9
TETRACHLOROETHYLENE	<2.0
TRICHLOROETHYLENE	<2.0
CADMIUM	<10
HS-07	
CHLOROFORM	0.73
TETRACHLOROETHYLENE	<2.0
TRICHLOROETHYLENE	<2.0
CADMIUM	<10
HS-08	
CHLOROFORM	<2.0
TETRACHLOROETHYLENE	<2.0
TRICHLOROETHYLENE	<2.0
CADMIUM	<10
MW-1	
CHLOROFORM	<2.0
TETRACHLOROETHYLENE	12.7
TRICHLOROETHYLENE	4.8
CADMIUM	<10
MW-6	
CHLOROFORM	2.1
TETRACHLOROETHYLENE	<2.0
TRICHLOROETHYLENE	<2.0
CADMIUM	<10

#### LEGEND:

- HS-01 SOIL AND GROUNDWATER  
SAMPLE LOCATION  
INSTALLED BY BROWN AND CALDWELL 2010
- ◆ MW-1 SOIL AND GROUNDWATER  
SAMPLE LOCATION INSTALLED AS PART OF VB/I-70 OU2 ASSESSMENTS
- MW-1 CTL MONITORING WELL LOCATION
- 5170 EXISTING GROUND SURFACE ELEVATION (FEET)

NOTES:  
 RESULTS PROVIDED IN MICROGRAMS/LITERS (ug/L)  
 PCE-TETRACHLOROETHENE  
 TCE-TRICHLOROETHENE  
 CIS-1,2-DCE-CIS-1,2, DICHLOROETHENE  
 TOTAL-METAL RESULTS PROVIDED BY 200.8 ANALYSIS  
 DISOLVED-METAL RESULTS PROVIDED BY 200.7 ANALYSIS  
 (SAMPLES LAB FILTERED PRIOR TO ANALYSIS)

## Summary of Ground Water Results

Fig. 4



#### LEGEND:

- HS-01 SOIL AND GROUNDWATER  
○ SAMPLE LOCATION  
INSTALLED BY BROWN AND CALDWELL 2010
- MW-1 SOIL AND GROUNDWATER  
◆ SAMPLE LOCATION INSTALLED  
AS PART OF VB/I-70 OU2  
ASSESSMENTS
- MW-1 CTL MONITORING WELL  
LOCATION  
●
- 5170 EXISTING GROUND  
SURFACE ELEVATION (FEET)

#### NOTES:

(5185.96) APPROXIMATE GROUND  
WATER ELEVATIONS  
MEASURED APRIL 5, 2011



0 150 300  
SCALE: 1" = 300'

WH PACIFIC  
40TH STREET OUTFALL  
Project No. DN44,666-205

**Ground Water  
Elevations** Fig. 5



#### LEGEND:

- HS-01 SOIL AND GROUNDWATER SAMPLE LOCATION INSTALLED BY BROWN AND CALDWELL 2010
- MW-1 SOIL AND GROUNDWATER SAMPLE LOCATION INSTALLED AS PART OF VB/I-70 OU2 ASSESSMENTS
- CTL MONITORING WELL LOCATION
- 5170 EXISTING GROUND SURFACE ELEVATION (FEET)

#### NOTES:

ND - NONE DETECTED



0 150 300  
SCALE: 1" = 300'

## Asbestos Sample Results

Fig. 6



## APPENDIX A

### LOGS OF EXPLORATORY BORINGS AND WELL CONSTRUCTION

WHPACIFIC, INC.  
40<sup>th</sup> STREET OUTFALL  
BLAKE STREET AND 40<sup>th</sup> STREET TO THE SOUTH PLATTE  
CTL | T PROJECT NO. DN44,666-205  
S:\PROJECTS\44600\DN44666.000\205\3. Letters\1\DN44666-205-L1.doc

# Monitoring Well Construction Summary

CTL/THOMPSON, INC. (303) 825-0777

1971 WEST 12TH AVENUE DENVER, COLORADO 80204

Project No. DN44,666-205  
 Project Name \_\_\_\_\_  
 Drilling Contractor DAKOTA DRILLING  
 Drilling Method 6" HALLOW  
 Ground Water Depth (ft) 30.04

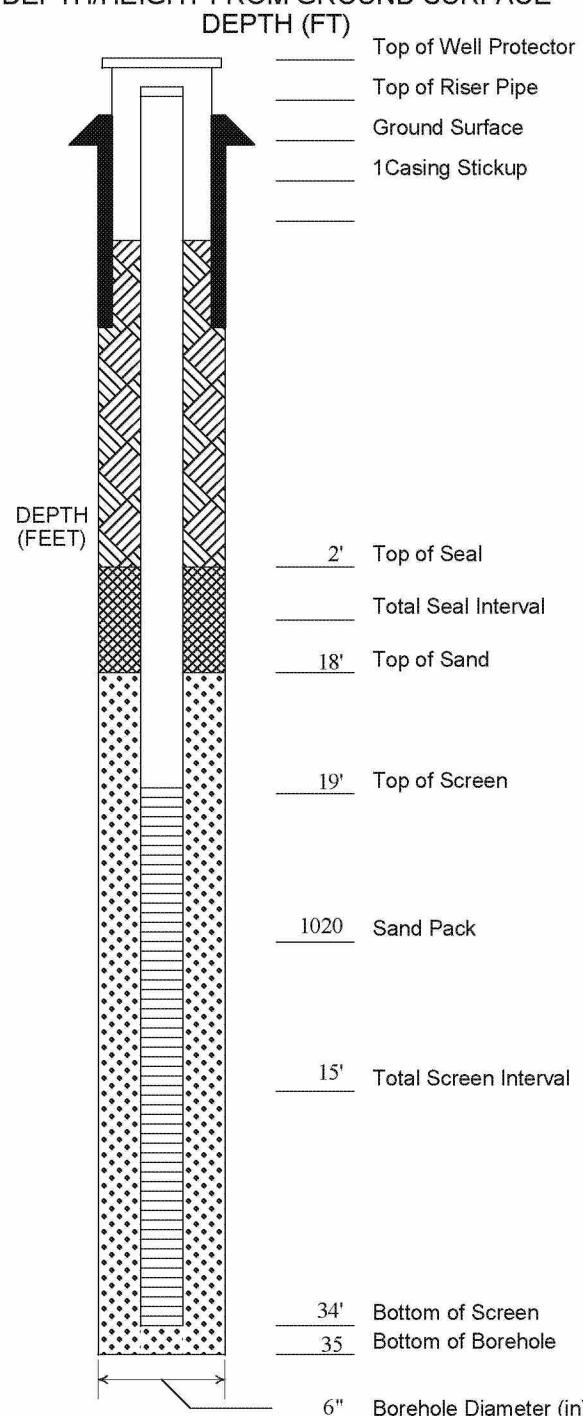
Well No. MW-1  
 Engineer NT  
 Date Drilled 3-30-11  
 Ground Elevation 5189

## WELL CONSTRUCTION

Cap Type	J-Plug
Well Protector Type	8" Flush Mount
Annular Sealant Type	Bentonite chips
Seal Material Type	
Sand Pack Type	1020
Riser Pipe Length (ft) and Type	10'
Riser Pipe Diameter (in)	2"
Screen Length (ft) and Type	20'
Screen Slot Size	0.001
Gallons Removed (purge)	
Other	

## WELL DETAIL

### DEPTH/HEIGHT FROM GROUND SURFACE



# Monitoring Well Construction Summary

CTL/THOMPSON, INC. (303) 825-0777

1971 WEST 12TH AVENUE DENVER, COLORADO 80204

Project No. DN44,666-205  
 Project Name \_\_\_\_\_  
 Drilling Contractor DAKOTA DRILLING  
 Drilling Method 4" SOLID  
 Ground Water Depth (ft) 31.61

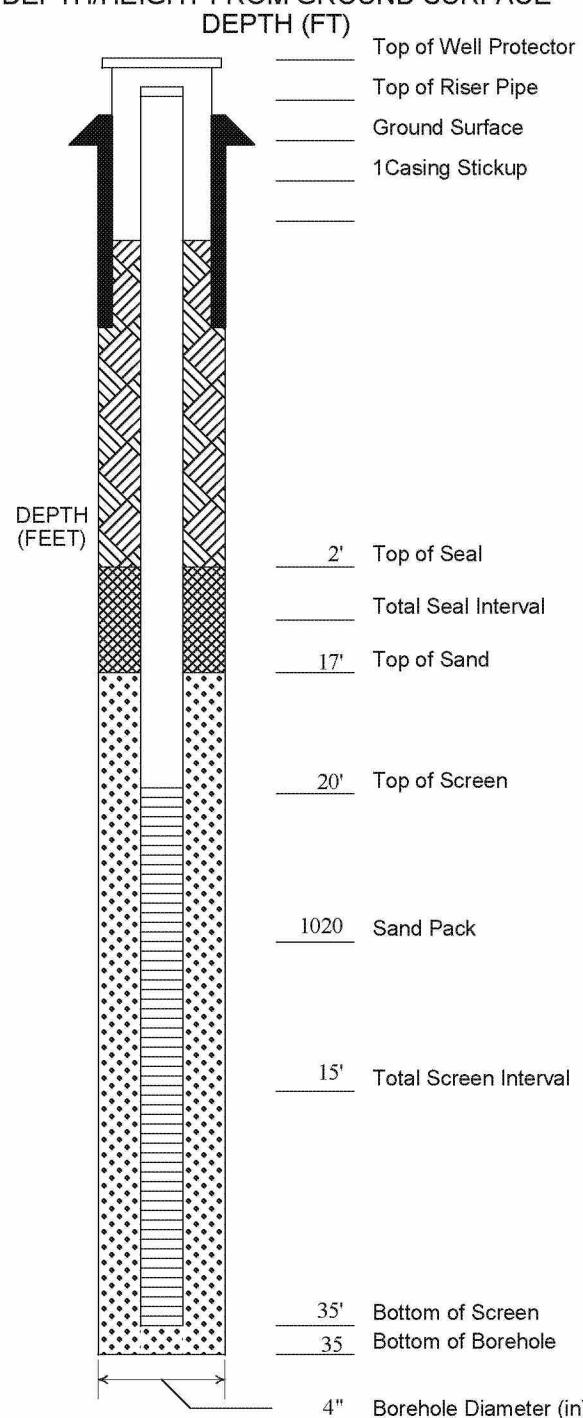
Well No. MW-2  
 Engineer NT  
 Date Drilled 3-31-11  
 Ground Elevation 5189

## WELL CONSTRUCTION

Cap Type	J-Plug
Well Protector Type	6" Flush Mount
Annular Sealant Type	Bentonite chips
Seal Material Type	
Sand Pack Type	1020
Riser Pipe Length (ft) and Type	20'
Riser Pipe Diameter (in)	2"
Screen Length (ft) and Type	15'
Screen Slot Size	0.001
Gallons Removed (purge)	
Other	

## WELL DETAIL

DEPTH/HEIGHT FROM GROUND SURFACE



# Monitoring Well Construction Summary

CTL/THOMPSON, INC. (303) 825-0777

1971 WEST 12TH AVENUE DENVER, COLORADO 80204

Project No. DN44,666-205  
 Project Name \_\_\_\_\_  
 Drilling Contractor DAKOTA DRILLING  
 Drilling Method 4" SOLID  
 Ground Water Depth (ft) 31.54

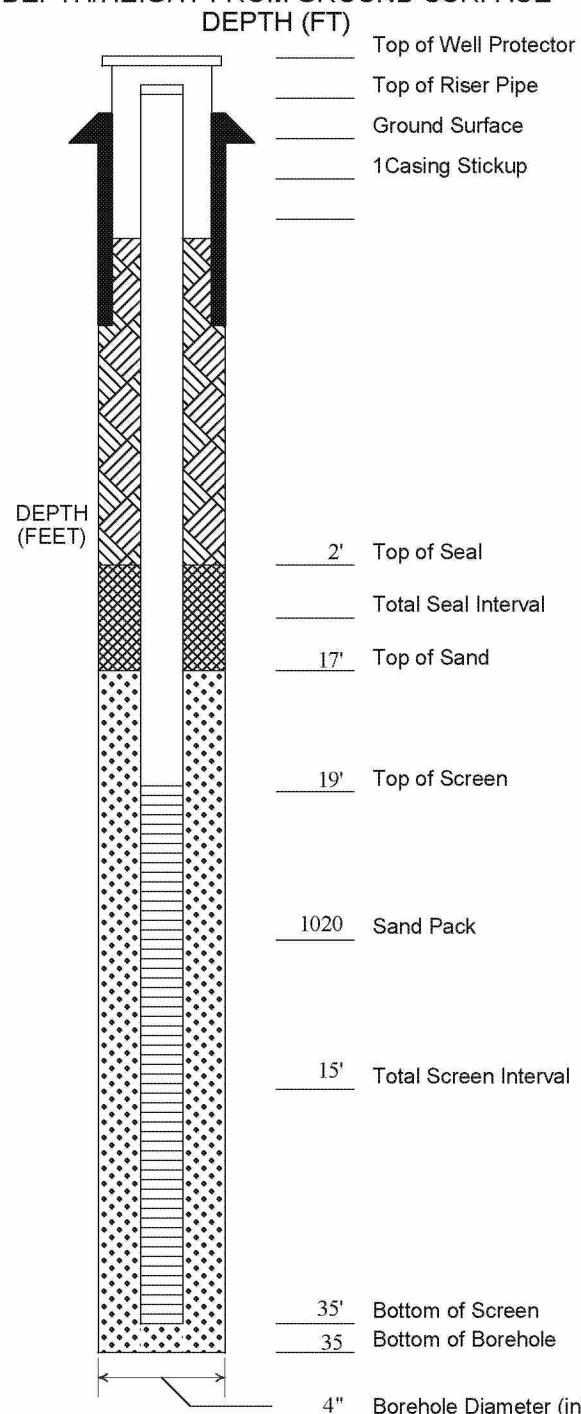
Well No. MW-3  
 Engineer NT  
 Date Drilled 3-30-11  
 Ground Elevation 5190

## WELL CONSTRUCTION

Cap Type	J-Plug
Well Protector Type	8" Flush Mount
Annular Sealant Type	Bentonite chips
Seal Material Type	
Sand Pack Type	1020
Riser Pipe Length (ft) and Type	20'
Riser Pipe Diameter (in)	2"
Screen Length (ft) and Type	15'
Screen Slot Size	0.001
Gallons Removed (purge)	
Other	

## WELL DETAIL

### DEPTH/HEIGHT FROM GROUND SURFACE



# Monitoring Well Construction Summary

CTL/THOMPSON, INC. (303) 825-0777

1971 WEST 12TH AVENUE DENVER, COLORADO 80204

Project No. DN44,666-205  
 Project Name \_\_\_\_\_  
 Drilling Contractor DAKOTA DRILLING  
 Drilling Method 4" SOLID  
 Ground Water Depth (ft) 12.55

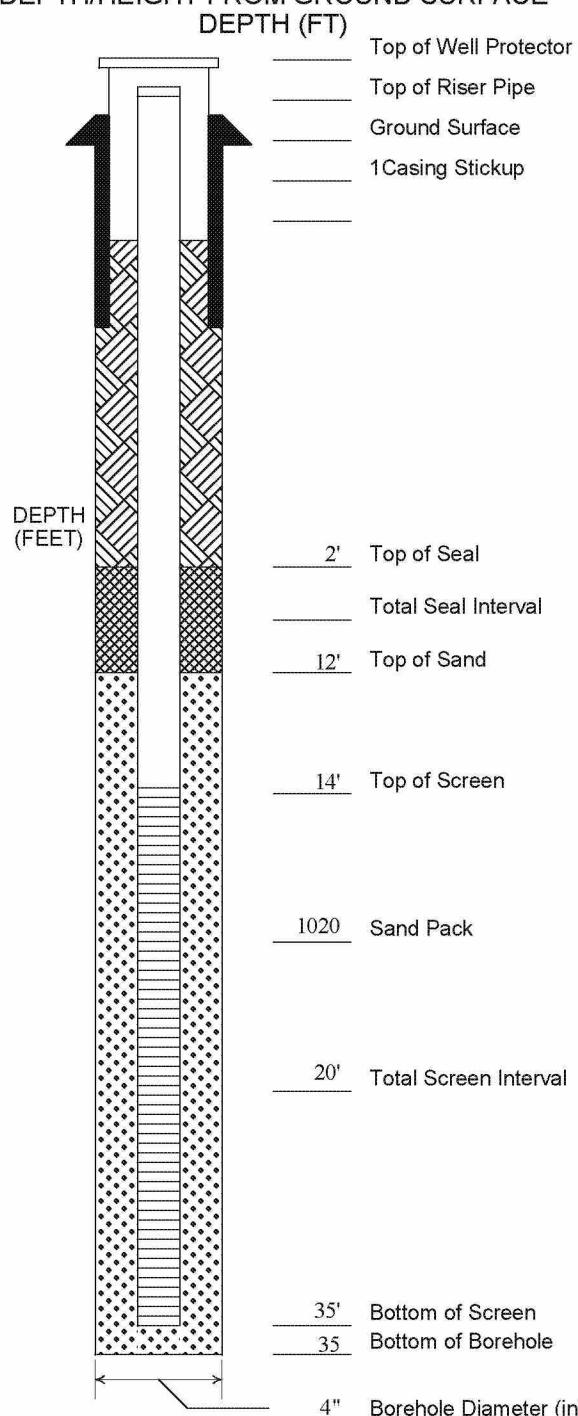
Well No. MW-4  
 Engineer NT  
 Date Drilled 3-31-11  
 Ground Elevation 5172

## WELL CONSTRUCTION

Cap Type	J-Plug
Well Protector Type	8" Flush Mount
Annular Sealant Type	Bentonite chips
Seal Material Type	
Sand Pack Type	1020
Riser Pipe Length (ft) and Type	15'
Riser Pipe Diameter (in)	2"
Screen Length (ft) and Type	20'
Screen Slot Size	0.001
Gallons Removed (purge)	
Other	

## WELL DETAIL

DEPTH/HEIGHT FROM GROUND SURFACE



# Monitoring Well Construction Summary

CTL/THOMPSON, INC. (303) 825-0777

1971 WEST 12TH AVENUE DENVER, COLORADO 80204

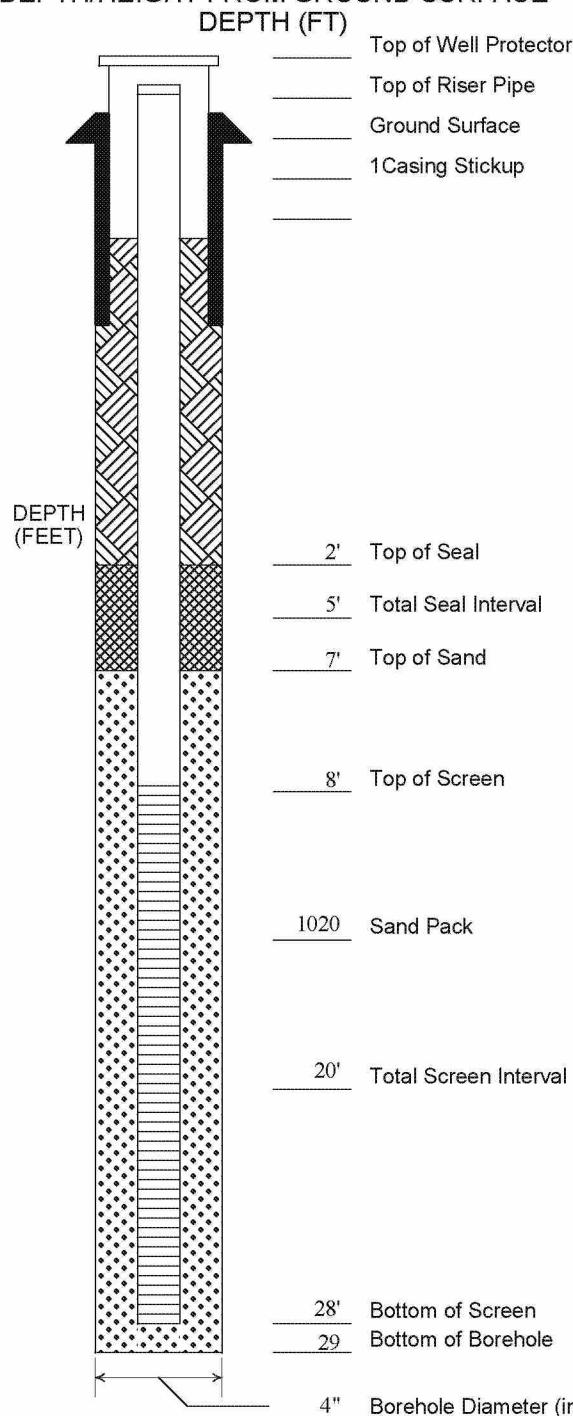
Project No. DN44,666-205  
 Project Name \_\_\_\_\_  
 Drilling Contractor DAKOTA DRILLING  
 Drilling Method 4" SOLID  
 Ground Water Depth (ft) 12.55

Well No. MW-5  
 Engineer NT  
 Date Drilled 3-31-11  
 Ground Elevation 5171

## WELL CONSTRUCTION

Cap Type	J-Plug
Well Protector Type	8" Flush Mount
Annular Sealant Type	Bentonite chips
Seal Material Type	
Sand Pack Type	1020
Riser Pipe Length (ft) and Type	7'
Riser Pipe Diameter (in)	2"
Screen Length (ft) and Type	20'
Screen Slot Size	0.001
Gallons Removed (purge)	
Other	

## WELL DETAIL DEPTH/HEIGHT FROM GROUND SURFACE



# Monitoring Well Construction Summary

CTL/THOMPSON, INC. (303) 825-0777

1971 WEST 12TH AVENUE DENVER, COLORADO 80204

Project No. DN44,666-205  
 Project Name \_\_\_\_\_  
 Drilling Contractor DAKOTA DRILLING  
 Drilling Method 4" SOLID  
 Ground Water Depth (ft) 23.63

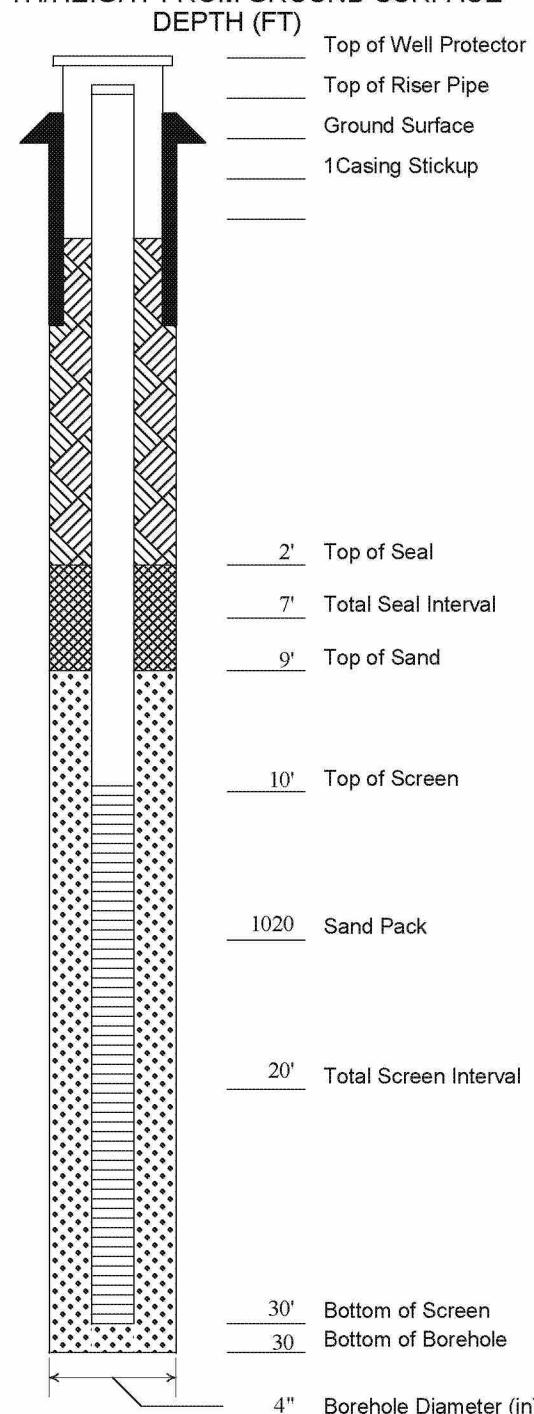
Well No. MW-6  
 Engineer NT  
 Date Drilled 3-31-11  
 Ground Elevation 5180

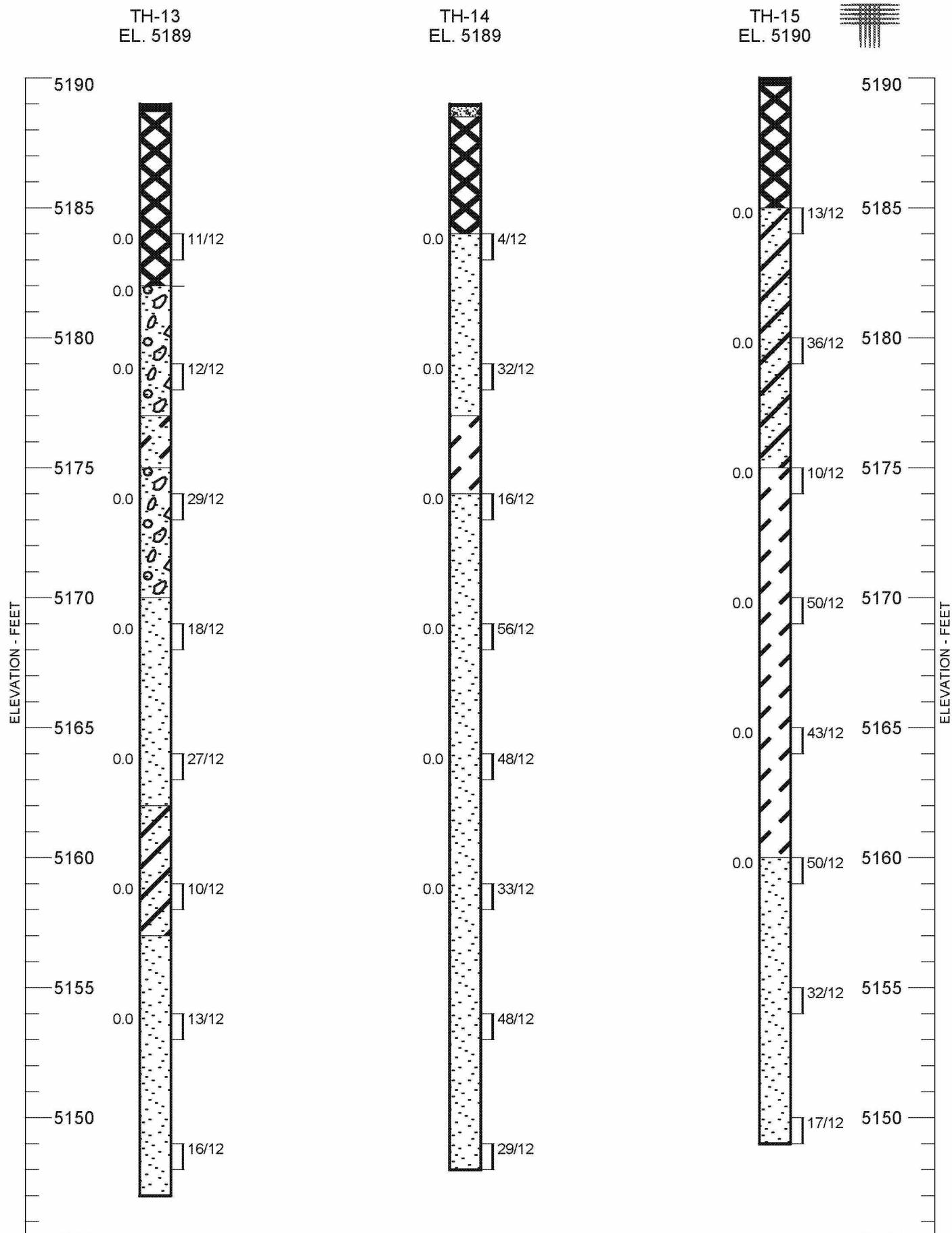
## WELL CONSTRUCTION

Cap Type	J-Plug
Well Protector Type	8" Flush Mount
Annular Sealant Type	Bentonite chips
Seal Material Type	
Sand Pack Type	1020
Riser Pipe Length (ft) and Type	10'; 2"
Riser Pipe Diameter (in)	2"
Screen Length (ft) and Type	20'
Screen Slot Size	0.001
Gallons Removed (purge)	
Other	

## WELL DETAIL

### DEPTH/HEIGHT FROM GROUND SURFACE

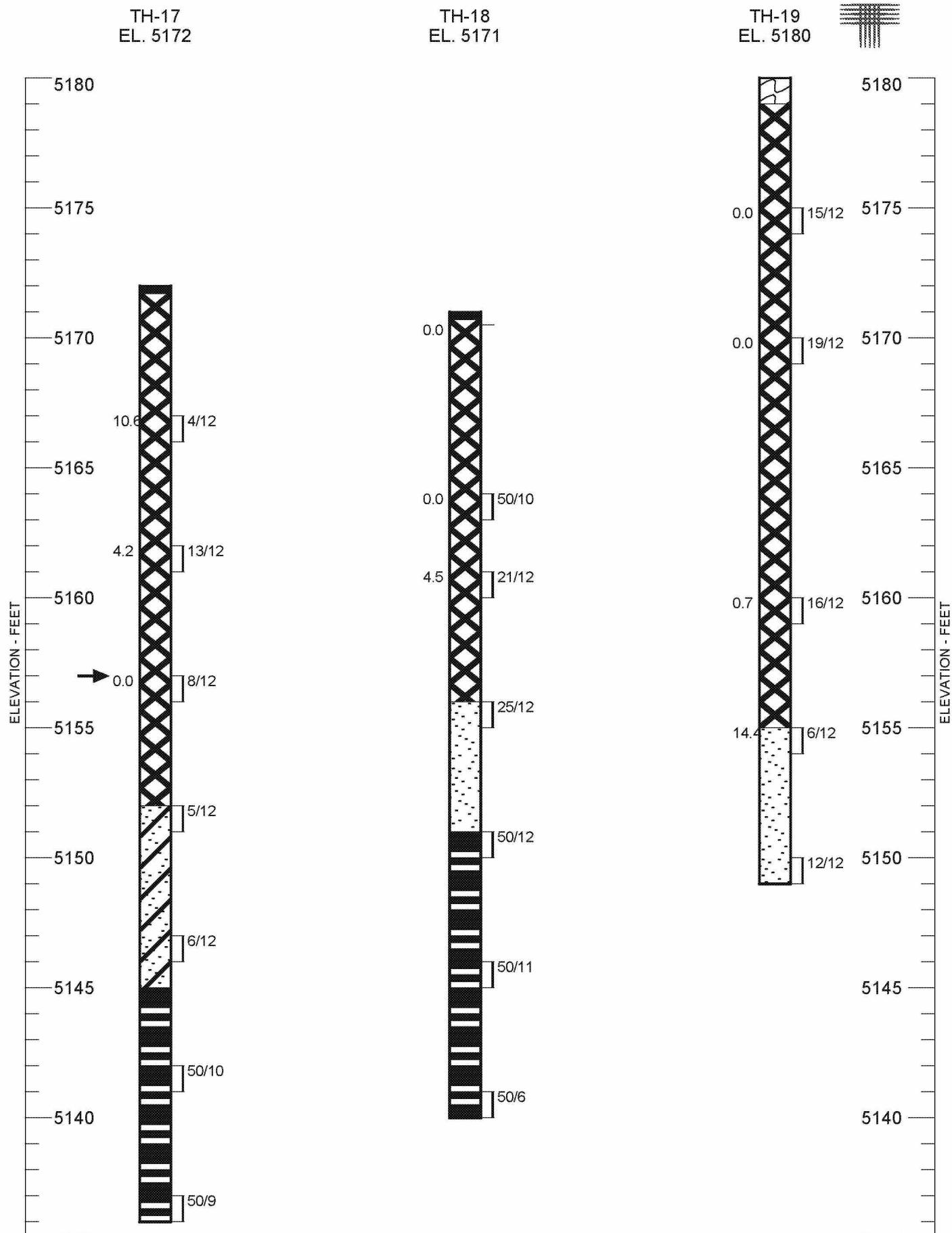




### SUMMARY LOGS OF EXPLORATORY BORINGS

WH PACIFIC  
40TH STREET OUTFALL  
PROJECT NO. DN44,666-205

FIG. A - 1





#### LEGEND:

	ASPHALT.
	CONCRETE.
	FILL, CLAY, SANDY, VERY LOOSE TO VERY STIFF, MOIST, WOOD, BRICK, METAL.
	CLAY, SANDY, STIFF TO VERY STIFF, MOIST, BROWN (CL).
	SAND, CLAYEY, MEDIUM DENS,E SLIGHTLY MOIST, BROWN (SC).
	SAND, GRAVEL, LOOSE TO MEDIUM DENSE, SMALL COBBLES.
	SAND, SILTY, LOOSE TO MEDIUM DENSE, MOIST, BROWN, GRAY (SM).
	GRAVEL, SANDY, MEDIUM DENSE, MOIST, BROWN (GP).
	BEDROCK, CLAYSTONE, HARD, MOIST, BROWN, GRAY.
	DRIVE SAMPLE. THE SYMBOL 11/12 INDICATES 11 BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE A 2.5-INCH O.D. SAMPLER 12 INCHES.
	INDICATES DEPTH WHERE HOLE CAVED.

#### NOTES:

1. THE BORINGS WERE DRILLED ON MARCH 30 AND 31, 2011 USING 4-INCH DIAMETER, CONTINUOUS-FLIGHT AUGER AND A TRUCK-MOUNTED DRILL RIG.
2. BORING LOCATIONS AND ELEVATIONS WERE DETERMINED BY A REPRESENTATIVE OF OUR FIRM REFERENCING THE TEMPORARY BENCHMARK SHOWN ON FIG. 1.
3. THESE LOGS ARE SUBJECT TO THE EXPLANATIONS, LIMITATIONS AND CONCLUSIONS CONTAINED IN THIS REPORT.

#### SUMMARY LEGEND OF EXPLORATORY BORINGS



**ATTACHMENT B  
LABORATORY DATA**

WHPACIFIC, INC.  
40<sup>th</sup> STREET OUTFALL  
BLAKE STREET AND 40<sup>th</sup> STREET TO THE SOUTH PLATTE  
CTL | T PROJECT NO. DN44,666-205  
S:\PROJECTS\44600\DN44666.000\205\3. Letters\1\DN44666-205-L1.doc



April 8, 2011

Laboratory Code: RES  
Subcontract Number: NA  
Laboratory Report: RES 210619-1  
Project # / P.O. # 44666-205  
Project Description: 40th Street Outfall

Nick Talocco  
CTL/Thompson (Denver)  
1971 West 12th Place  
Denver CO 80204

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

**RES 210619-1** is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeanne Spencer Orr".

Jeanne Spencer Orr  
President

A handwritten signature in black ink, appearing to read "Robert R. Workman Jr.". It is positioned above a line of text.

Analyst(s): \_\_\_\_\_  
Paul D. LoScalzo      Wenlong Liu  
Michael Scales      Adam Humphreys  
Anita Grigg          Robert R. Workman Jr.  
Bethany Nichols

# RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0

TDH Licensed Laboratory # 30-0136

Page 2 of 2

**TABLE PLM BULK ANALYSIS, PERCENTAGE COMPOSITION BY VOLUME**

RES Job Number: **RES 210619-1**  
 Client: **CTL/Thompson (Denver)**  
 Client Project Number / P.O.: **44666-205**  
 Client Project Description: **40th Street Outfall**  
 Date Samples Received: **April 1, 2011**  
 Analysis Type: **PLM, Short Report**  
 Turnaround: **3-5 Day**  
 Date Analyzed: **April 1, 2011**

Client Sample Number	Lab ID Number	L A Y E R	Physical Description	Sub Part (%)	Asbestos Content		Non Asbestos Fibrous Components (%)	Non-Fibrous Components (%)
					Mineral	Visual Estimate (%)		
TH-17-FM-1	EM 720134	A	Red/multi-colored sheet vinyl w/ black fibrous backing	100		ND	35	65
TH-17-PM-1	EM 720135	A	Brown fibrous woven material w/ brown soil	100		ND	70	30
TH-18-FT-1	EM 720136	A	Tan granular material	100		ND	0	100
TH-19-RM-1	EM 720137	A	Black tar w/ black fibrous tar	100		ND	7	93

ND=None Detected

TR=Trace, <1% Visual Estimate

Trem-Act=Tremolite-Actinolite

Note: Further analysis by TEM is recommended for organically bound material (i.e. floor tile)

if PLM results are <1%.

Data QA

Due Date: 4.6.18

RES 210619

Due Time: 520

## SUBMITTED BY:

## INVOICE TO: (IF DIFFERENT)

## CONTACT INFORMATION:

Company: <u>CTL / THOMPSON</u>	Company: _____	Contact: <u>Karen Talocca</u>	Contact: _____
Address: <u>1971 W. 12th Ave</u>	Address: _____	Phone: _____	Phone: _____
<u>DENVER, CO</u>		Fax: _____	Fax: _____
Project Number and/or P.O. #: <u>44666 - 208</u>		Cell/pager: <u>303-434-7924</u>	Cell/pager: _____
Project Description/Location: <u>40th STREET OUTFALL</u>		Final Data Deliverable Email Address: <u>KTALOCCA@CTLThompson.com</u>	

## ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm

PLM / PCM / TEM     RUSH (Same Day)     PRIORITY (Next Day)     STANDARD  
 (Rush PCM = 2hr, TEM = 6hr.)

## CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm

Metal(s) / Dust     RUSH     24 hr.     3-5 Day

RCRA 8 / Metals & Welding Fume Scan / TCLP     RUSH     5 day     10 day

\*\*Prior notification is required for RUSH turnarounds.\*\*

Organics     24 hr.     3 day     5 Day

\*\*Analysis turnarounds are subject to laboratory sample volume and are not guaranteed. You will be notified if delays are expected. Additional fees apply for afterhours and holidays for all analysis types.\*\*

## Special Instructions: \_\_\_\_\_

Client sample ID number (Sample ID's must be unique)

1 T H - 1 7 - F m - 1  
 2 T H - 1 7 - F m - 1  
 3 T H - 1 8 - F T - 1  
 4 T H - 1 9 - R m - 1  
 5 \_\_\_\_\_  
 6 \_\_\_\_\_  
 7 \_\_\_\_\_  
 8 \_\_\_\_\_  
 9 \_\_\_\_\_  
 10 \_\_\_\_\_  
 11 \_\_\_\_\_  
 12 \_\_\_\_\_  
 13 \_\_\_\_\_

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>Hector</u>	Date/Time: <u>4/1/18 17:23</u>	Sample Condition: On Ice	Sealed Y/N	Intact Y/N				
Laboratory Use Only		Temp. (F°) _____	Y/N	Y/N				
Received By: <u>Eric Ll.</u>	Date/Time: <u>4/1/18 520</u>	Carrier: <u>Hand</u>						
Results:	Contact _____	Page _____	Phone _____	Email _____	Fax _____	Date _____	Time _____	Initials _____
	Contact _____	Page _____	Phone _____	Email _____	Fax _____	Date _____	Time _____	Initials _____



04/26/11

## Technical Report for

**CTL/Thompson, Inc.**

**40th Street Outfall**

**44666-205**

**Accutest Job Number: D22299**

**Sampling Dates: 03/30/11 - 03/31/11**

### Report to:

**CTL/Thompson, Inc.  
1971 West 12th Avenue  
Denver, CO 80204  
ntalocco@ctlthompson.com**

**ATTN: Nick Talocco**

**Total number of pages in report: 82**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.



**John Hamilton  
Laboratory Director**

**Client Service contact: Amanda Kissell 303-425-6021**

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

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## Sample Summary

CTL/Thompson, Inc.

Job No: D22299

40th Street Outfall

Project No: 44666-205

Sample Number	Collected Date	Time By	Matrix Received	Code Type	Client Sample ID
D22299-1	03/30/11	11:50 NT	04/01/11	SO	Soil TH-13
D22299-1R	03/30/11	11:50 NT	04/01/11	SO	Soil TH-13
D22299-2	03/31/11	07:50 NT	04/01/11	SO	Soil TH-14
D22299-2R	03/31/11	07:50 NT	04/01/11	SO	Soil TH-14
D22299-3	03/30/11	14:40 NT	04/01/11	SO	Soil TH-15
D22299-3R	03/30/11	14:40 NT	04/01/11	SO	Soil TH-15
D22299-4	03/31/11	10:30 NT	04/01/11	SO	Soil TH-17
D22299-4R	03/31/11	10:30 NT	04/01/11	SO	Soil TH-17
D22299-5	03/31/11	13:05 NT	04/01/11	SO	Soil TH-18
D22299-5R	03/31/11	13:05 NT	04/01/11	SO	Soil TH-18
D22299-6	03/31/11	15:45 NT	04/01/11	SO	Soil TH-19
D22299-6R	03/31/11	15:45 NT	04/01/11	SO	Soil TH-19

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



## Sample Results

### Report of Analysis

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**Report of Analysis**

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<b>Client Sample ID:</b>	TH-13	<b>Date Sampled:</b>	03/30/11
<b>Lab Sample ID:</b>	D22299-1	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	90.8
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	5V14818.D	1	04/10/11	DC	n/a	n/a	V5V870
Run #2							

	<b>Initial Weight</b>	<b>Final Volume</b>	<b>Methanol Aliquot</b>
Run #1	5.07 g	5.0 ml	100 ul
Run #2			

**VOA HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
67-64-1	Acetone	ND	1200	590	ug/kg	
71-43-2	Benzene	ND	59	18	ug/kg	
75-27-4	Bromodichloromethane	ND	300	120	ug/kg	
75-25-2	Bromoform	ND	300	120	ug/kg	
108-90-7	Chlorobenzene	ND	300	120	ug/kg	
75-00-3	Chloroethane	ND	300	120	ug/kg	
67-66-3	Chloroform	ND	300	59	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	1200	710	ug/kg	
75-15-0	Carbon disulfide	ND	300	120	ug/kg	
56-23-5	Carbon tetrachloride	ND	300	120	ug/kg	
75-34-3	1,1-Dichloroethane	ND	300	120	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	300	120	ug/kg	
107-06-2	1,2-Dichloroethane	ND	300	59	ug/kg	
78-87-5	1,2-Dichloropropane	ND	300	120	ug/kg	
124-48-1	Dibromochloromethane	ND	300	120	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	300	120	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	300	120	ug/kg	
541-73-1	m-Dichlorobenzene	ND	300	120	ug/kg	
95-50-1	o-Dichlorobenzene	ND	300	120	ug/kg	
106-46-7	p-Dichlorobenzene	ND	300	120	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	300	120	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	300	120	ug/kg	
100-41-4	Ethylbenzene	ND	120	24	ug/kg	
591-78-6	2-Hexanone	ND	1200	180	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	1200	180	ug/kg	
74-83-9	Methyl bromide	ND	300	120	ug/kg	
74-87-3	Methyl chloride	ND	300	120	ug/kg	
75-09-2	Methylene chloride	ND	300	120	ug/kg	
78-93-3	Methyl ethyl ketone	ND	1200	240	ug/kg	
100-42-5	Styrene	ND	300	120	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	300	59	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	590	120	ug/kg	

ND = Not detected      MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-13	<b>Date Sampled:</b>	03/30/11
<b>Lab Sample ID:</b>	D22299-1	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	90.8
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

**VOA HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-00-5	1,1,2-Trichloroethane	ND	300	120	ug/kg	
127-18-4	Tetrachloroethylene	ND	300	120	ug/kg	
108-88-3	Toluene	ND	120	59	ug/kg	
79-01-6	Trichloroethylene	ND	300	59	ug/kg	
75-01-4	Vinyl chloride	ND	300	120	ug/kg	
108-05-4	Vinyl Acetate	ND	1200	470	ug/kg	
1330-20-7	Xylene (total)	ND	120	42	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	85%		70-130%
460-00-4	4-Bromofluorobenzene	81%		70-130%
17060-07-0	1,2-Dichloroethane-D4	93%		70-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-13	<b>Date Sampled:</b>	03/30/11
<b>Lab Sample ID:</b>	D22299-1	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	90.8
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	1G101649.D	1	04/08/11	TMB	04/06/11	OP3445	E1G400
Run #2							

	<b>Initial Weight</b>	<b>Final Volume</b>
Run #1	30.1 g	1.0 ml
Run #2		

**ABN HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
65-85-0	Benzoic Acid	ND	360	200	ug/kg	
95-57-8	2-Chlorophenol	ND	44	40	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	40	33	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	40	37	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	44	40	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	180	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	180	140	ug/kg	
95-48-7	2-Methylphenol	ND	44	40	ug/kg	
106-44-5	4-Methylphenol	ND	44	40	ug/kg	
88-75-5	2-Nitrophenol	ND	44	40	ug/kg	
100-02-7	4-Nitrophenol	ND	77	51	ug/kg	
87-86-5	Pentachlorophenol	ND	180	110	ug/kg	
108-95-2	Phenol	ND	77	55	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	40	34	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	40	35	ug/kg	
83-32-9	Acenaphthene	ND	40	32	ug/kg	
208-96-8	Acenaphthylene	ND	40	37	ug/kg	
120-12-7	Anthracene	ND	40	27	ug/kg	
56-55-3	Benzo(a)anthracene	ND	40	32	ug/kg	
50-32-8	Benzo(a)pyrene	ND	40	27	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	44	40	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	40	27	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	51	44	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	40	34	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	180	110	ug/kg	
100-51-6	Benzyl Alcohol	ND	77	48	ug/kg	
91-58-7	2-Chloronaphthalene	ND	40	32	ug/kg	
106-47-8	4-Chloroaniline	ND	51	44	ug/kg	
218-01-9	Chrysene	ND	51	44	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	77	36	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	40	33	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	180	91	ug/kg	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-13	<b>Date Sampled:</b>	03/30/11
<b>Lab Sample ID:</b>	D22299-1	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	90.8
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	51	44	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	55	44	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	40	35	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	40	34	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	66	55	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	66	55	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	77	44	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	44	33	ug/kg	
132-64-9	Dibenzofuran	ND	40	30	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	40	35	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	44	40	ug/kg	
84-66-2	Diethyl phthalate	ND	77	44	ug/kg	
131-11-3	Dimethyl phthalate	ND	77	44	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	180	110	ug/kg	
206-44-0	Fluoranthene	ND	77	40	ug/kg	
86-73-7	Fluorene	ND	44	37	ug/kg	
118-74-1	Hexachlorobenzene	ND	180	110	ug/kg	
87-68-3	Hexachlorobutadiene	ND	40	34	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	180	110	ug/kg	
67-72-1	Hexachloroethane	ND	44	40	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	40	30	ug/kg	
78-59-1	Isophorone	ND	40	34	ug/kg	
91-57-6	2-Methylnaphthalene	ND	40	31	ug/kg	
88-74-4	2-Nitroaniline	ND	44	37	ug/kg	
99-09-2	3-Nitroaniline	ND	77	44	ug/kg	
100-01-6	4-Nitroaniline	ND	180	88	ug/kg	
91-20-3	Naphthalene	ND	77	37	ug/kg	
98-95-3	Nitrobenzene	ND	180	55	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	180	55	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	55	ug/kg	
85-01-8	Phenanthrene	ND	77	40	ug/kg	
129-00-0	Pyrene	ND	44	40	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	40	34	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	65%		10-138%
4165-62-2	Phenol-d5	63%		10-176%
118-79-6	2,4,6-Tribromophenol	54%		10-156%
4165-60-0	Nitrobenzene-d5	43%		10-193%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-13	<b>Date Sampled:</b>	03/30/11
<b>Lab Sample ID:</b>	D22299-1	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	90.8
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	45%		20-138%
1718-51-0	Terphenyl-d14	48%		17-174%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-13	<b>Date Sampled:</b>	03/30/11
<b>Lab Sample ID:</b>	D22299-1	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	90.8
<b>Project:</b>	40th Street Outfall		

**Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	1.6 J	2.7	0.64	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Barium	32.0	1.1	0.12	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Cadmium	0.29 U	1.1	0.29	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Chromium	3.9	1.1	0.034	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Copper	5.9	1.1	0.17	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Iron	3410	7.6	2.2	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Lead	22.3	5.5	0.23	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Manganese	55.2	0.55	0.013	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Mercury	0.025 J	0.11	0.014	mg/kg	1	04/12/11	04/12/11	JB	SW846 7471A <sup>2</sup>
Selenium	0.55 U	5.5	0.55	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Silver	0.16 J	3.3	0.056	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Zinc	39.6	3.3	0.065	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>

(1) Instrument QC Batch: MA1440

(2) Instrument QC Batch: MA1451

(3) Prep QC Batch: MP4419

(4) Prep QC Batch: MP4441

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL

**Report of Analysis**

Page 1 of 2

<b>Client Sample ID:</b>	TH-14	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-2	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	87.0
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	3V10420.D	1	04/10/11	DC	n/a	n/a	V3V575
Run #2							

	<b>Initial Weight</b>	<b>Final Volume</b>	<b>Methanol Aliquot</b>
Run #1	5.05 g	5.0 ml	100 ul
Run #2			

**VOA HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
67-64-1	Acetone	ND	1300	640	ug/kg	
71-43-2	Benzene	ND	64	19	ug/kg	
75-27-4	Bromodichloromethane	ND	320	130	ug/kg	
75-25-2	Bromoform	ND	320	130	ug/kg	
108-90-7	Chlorobenzene	ND	320	130	ug/kg	
75-00-3	Chloroethane	ND	320	130	ug/kg	
67-66-3	Chloroform	ND	320	64	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	1300	770	ug/kg	
75-15-0	Carbon disulfide	ND	320	130	ug/kg	
56-23-5	Carbon tetrachloride	ND	320	130	ug/kg	
75-34-3	1,1-Dichloroethane	ND	320	130	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	320	130	ug/kg	
107-06-2	1,2-Dichloroethane	ND	320	64	ug/kg	
78-87-5	1,2-Dichloropropane	ND	320	130	ug/kg	
124-48-1	Dibromochloromethane	ND	320	130	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	320	130	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	320	130	ug/kg	
541-73-1	m-Dichlorobenzene	ND	320	130	ug/kg	
95-50-1	o-Dichlorobenzene	ND	320	130	ug/kg	
106-46-7	p-Dichlorobenzene	ND	320	130	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	320	130	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	320	130	ug/kg	
100-41-4	Ethylbenzene	ND	130	26	ug/kg	
591-78-6	2-Hexanone	ND	1300	190	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	1300	190	ug/kg	
74-83-9	Methyl bromide	ND	320	130	ug/kg	
74-87-3	Methyl chloride	ND	320	130	ug/kg	
75-09-2	Methylene chloride	ND	320	130	ug/kg	
78-93-3	Methyl ethyl ketone	ND	1300	260	ug/kg	
100-42-5	Styrene	ND	320	130	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	320	64	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	640	130	ug/kg	

ND = Not detected      MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-14	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-2	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	87.0
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

**VOA HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-00-5	1,1,2-Trichloroethane	ND	320	130	ug/kg	
127-18-4	Tetrachloroethylene	ND	320	130	ug/kg	
108-88-3	Toluene	ND	130	64	ug/kg	
79-01-6	Trichloroethylene	ND	320	64	ug/kg	
75-01-4	Vinyl chloride	ND	320	130	ug/kg	
108-05-4	Vinyl Acetate	ND	1300	520	ug/kg	
1330-20-7	Xylene (total)	ND	130	45	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	76%		70-130%
460-00-4	4-Bromofluorobenzene	79%		70-130%
17060-07-0	1,2-Dichloroethane-D4	82%		70-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-14	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-2	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	87.0
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	1G101650.D	10	04/08/11	TMB	04/06/11	OP3445	E1G400
Run #2							

	<b>Initial Weight</b>	<b>Final Volume</b>
Run #1	30.1 g	1.0 ml
Run #2		

**ABN HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
65-85-0	Benzoic Acid	ND	3800	2100	ug/kg	
95-57-8	2-Chlorophenol	ND	460	420	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	420	340	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	420	380	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	460	420	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1900	1500	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	1900	1500	ug/kg	
95-48-7	2-Methylphenol	ND	460	420	ug/kg	
106-44-5	4-Methylphenol	ND	460	420	ug/kg	
88-75-5	2-Nitrophenol	ND	460	420	ug/kg	
100-02-7	4-Nitrophenol	ND	800	540	ug/kg	
87-86-5	Pentachlorophenol	ND	1900	1100	ug/kg	
108-95-2	Phenol	ND	800	570	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	420	360	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	420	370	ug/kg	
83-32-9	Acenaphthene	ND	420	330	ug/kg	
208-96-8	Acenaphthylene	ND	420	380	ug/kg	
120-12-7	Anthracene	ND	420	290	ug/kg	
56-55-3	Benzo(a)anthracene	ND	420	330	ug/kg	
50-32-8	Benzo(a)pyrene	ND	420	290	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	460	420	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	420	290	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	540	460	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	420	360	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	1900	1100	ug/kg	
100-51-6	Benzyl Alcohol	ND	800	500	ug/kg	
91-58-7	2-Chloronaphthalene	ND	420	330	ug/kg	
106-47-8	4-Chloroaniline	ND	540	460	ug/kg	
218-01-9	Chrysene	ND	540	460	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	800	380	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	420	340	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	1900	960	ug/kg	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-14	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-2	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	87.0
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	540	460	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	570	460	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	420	370	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	420	360	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	690	570	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	690	570	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	800	460	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	460	340	ug/kg	
132-64-9	Dibenzofuran	ND	420	310	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	420	370	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	460	420	ug/kg	
84-66-2	Diethyl phthalate	ND	800	460	ug/kg	
131-11-3	Dimethyl phthalate	ND	800	460	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	1900	1100	ug/kg	
206-44-0	Fluoranthene	ND	800	420	ug/kg	
86-73-7	Fluorene	ND	460	380	ug/kg	
118-74-1	Hexachlorobenzene	ND	1900	1100	ug/kg	
87-68-3	Hexachlorobutadiene	ND	420	360	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	1900	1100	ug/kg	
67-72-1	Hexachloroethane	ND	460	420	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	420	310	ug/kg	
78-59-1	Isophorone	ND	420	360	ug/kg	
91-57-6	2-Methylnaphthalene	ND	420	320	ug/kg	
88-74-4	2-Nitroaniline	ND	460	380	ug/kg	
99-09-2	3-Nitroaniline	ND	800	460	ug/kg	
100-01-6	4-Nitroaniline	ND	1900	920	ug/kg	
91-20-3	Naphthalene	ND	800	380	ug/kg	
98-95-3	Nitrobenzene	ND	1900	570	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	1900	570	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	1900	570	ug/kg	
85-01-8	Phenanthrene	ND	800	420	ug/kg	
129-00-0	Pyrene	ND	460	420	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	420	360	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	67%		10-138%
4165-62-2	Phenol-d5	63%		10-176%
118-79-6	2,4,6-Tribromophenol	64%		10-156%
4165-60-0	Nitrobenzene-d5	47%		10-193%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-14	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-2	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	87.0
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	53%		20-138%
1718-51-0	Terphenyl-d14	51%		17-174%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-14	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-2	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	87.0
<b>Project:</b>	40th Street Outfall		

**Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.2 J	2.8	0.65	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Barium	76.8	1.1	0.12	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Cadmium	1.2	1.1	0.30	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Chromium	11.4	1.1	0.034	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Copper	7.4	1.1	0.18	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Iron	10900	7.7	2.2	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Lead	11.5	5.5	0.23	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Manganese	116	0.55	0.013	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Mercury	0.017 J	0.10	0.014	mg/kg	1	04/12/11	04/12/11	JB	SW846 7471A <sup>2</sup>
Selenium	0.55 U	5.5	0.55	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Silver	0.31 J	3.3	0.056	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Zinc	189	3.3	0.066	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>

(1) Instrument QC Batch: MA1440

(2) Instrument QC Batch: MA1451

(3) Prep QC Batch: MP4419

(4) Prep QC Batch: MP4441

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-15	<b>Date Sampled:</b>	03/30/11
<b>Lab Sample ID:</b>	D22299-3	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	94.5
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	5V14819.D	1	04/10/11	DC	n/a	n/a	V5V870
Run #2							

	<b>Initial Weight</b>	<b>Final Volume</b>	<b>Methanol Aliquot</b>
Run #1	5.04 g	5.0 ml	100 ul
Run #2			

**VOA HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
67-64-1	Acetone	ND	1100	550	ug/kg	
71-43-2	Benzene	ND	55	17	ug/kg	
75-27-4	Bromodichloromethane	ND	280	110	ug/kg	
75-25-2	Bromoform	ND	280	110	ug/kg	
108-90-7	Chlorobenzene	ND	280	110	ug/kg	
75-00-3	Chloroethane	ND	280	110	ug/kg	
67-66-3	Chloroform	ND	280	55	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	1100	670	ug/kg	
75-15-0	Carbon disulfide	ND	280	110	ug/kg	
56-23-5	Carbon tetrachloride	ND	280	110	ug/kg	
75-34-3	1,1-Dichloroethane	ND	280	110	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	280	110	ug/kg	
107-06-2	1,2-Dichloroethane	ND	280	55	ug/kg	
78-87-5	1,2-Dichloropropane	ND	280	110	ug/kg	
124-48-1	Dibromochloromethane	ND	280	110	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	280	110	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	280	110	ug/kg	
541-73-1	m-Dichlorobenzene	ND	280	110	ug/kg	
95-50-1	o-Dichlorobenzene	ND	280	110	ug/kg	
106-46-7	p-Dichlorobenzene	ND	280	110	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	280	110	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	280	110	ug/kg	
100-41-4	Ethylbenzene	ND	110	22	ug/kg	
591-78-6	2-Hexanone	ND	1100	170	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	1100	170	ug/kg	
74-83-9	Methyl bromide	ND	280	110	ug/kg	
74-87-3	Methyl chloride	ND	280	110	ug/kg	
75-09-2	Methylene chloride	ND	280	110	ug/kg	
78-93-3	Methyl ethyl ketone	ND	1100	220	ug/kg	
100-42-5	Styrene	ND	280	110	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	280	55	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	550	110	ug/kg	

ND = Not detected      MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-15	<b>Date Sampled:</b>	03/30/11
<b>Lab Sample ID:</b>	D22299-3	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	94.5
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

**VOA HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-00-5	1,1,2-Trichloroethane	ND	280	110	ug/kg	
127-18-4	Tetrachloroethylene	ND	280	110	ug/kg	
108-88-3	Toluene	ND	110	55	ug/kg	
79-01-6	Trichloroethylene	ND	280	55	ug/kg	
75-01-4	Vinyl chloride	ND	280	110	ug/kg	
108-05-4	Vinyl Acetate	ND	1100	440	ug/kg	
1330-20-7	Xylene (total)	ND	110	39	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	97%		70-130%
460-00-4	4-Bromofluorobenzene	92%		70-130%
17060-07-0	1,2-Dichloroethane-D4	107%		70-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 1 of 3

<b>Client Sample ID:</b>	TH-15	<b>Date Sampled:</b>	03/30/11
<b>Lab Sample ID:</b>	D22299-3	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	94.5
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	1G101632.D	1	04/07/11	TMB	04/06/11	OP3445	E1G400
Run #2							

	<b>Initial Weight</b>	<b>Final Volume</b>
Run #1	30.0 g	1.0 ml
Run #2		

**ABN HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
65-85-0	Benzoic Acid	ND	350	190	ug/kg	
95-57-8	2-Chlorophenol	ND	42	39	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	39	32	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	39	35	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	42	39	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	180	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	180	130	ug/kg	
95-48-7	2-Methylphenol	ND	42	39	ug/kg	
106-44-5	4-Methylphenol	ND	42	39	ug/kg	
88-75-5	2-Nitrophenol	ND	42	39	ug/kg	
100-02-7	4-Nitrophenol	ND	74	49	ug/kg	
87-86-5	Pentachlorophenol	ND	180	110	ug/kg	
108-95-2	Phenol	ND	74	53	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	39	33	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	39	34	ug/kg	
83-32-9	Acenaphthene	ND	39	31	ug/kg	
208-96-8	Acenaphthylene	ND	39	35	ug/kg	
120-12-7	Anthracene	ND	39	26	ug/kg	
56-55-3	Benzo(a)anthracene	ND	39	31	ug/kg	
50-32-8	Benzo(a)pyrene	ND	39	26	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	42	39	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	39	26	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	49	42	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	39	33	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	180	110	ug/kg	
100-51-6	Benzyl Alcohol	ND	74	46	ug/kg	
91-58-7	2-Chloronaphthalene	ND	39	31	ug/kg	
106-47-8	4-Chloroaniline	ND	49	42	ug/kg	
218-01-9	Chrysene	ND	49	42	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	74	35	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	39	32	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	180	88	ug/kg	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 2 of 3

<b>Client Sample ID:</b>	TH-15	<b>Date Sampled:</b>	03/30/11
<b>Lab Sample ID:</b>	D22299-3	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	94.5
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	49	42	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	53	42	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	39	34	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	39	33	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	63	53	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	63	53	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	74	42	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	42	32	ug/kg	
132-64-9	Dibenzofuran	ND	39	29	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	39	34	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	42	39	ug/kg	
84-66-2	Diethyl phthalate	ND	74	42	ug/kg	
131-11-3	Dimethyl phthalate	ND	74	42	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	180	110	ug/kg	
206-44-0	Fluoranthene	ND	74	39	ug/kg	
86-73-7	Fluorene	ND	42	35	ug/kg	
118-74-1	Hexachlorobenzene	ND	180	110	ug/kg	
87-68-3	Hexachlorobutadiene	ND	39	33	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	180	110	ug/kg	
67-72-1	Hexachloroethane	ND	42	39	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	39	29	ug/kg	
78-59-1	Isophorone	ND	39	33	ug/kg	
91-57-6	2-Methylnaphthalene	ND	39	30	ug/kg	
88-74-4	2-Nitroaniline	ND	42	35	ug/kg	
99-09-2	3-Nitroaniline	ND	74	42	ug/kg	
100-01-6	4-Nitroaniline	ND	180	85	ug/kg	
91-20-3	Naphthalene	ND	74	35	ug/kg	
98-95-3	Nitrobenzene	ND	180	53	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	180	53	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	53	ug/kg	
85-01-8	Phenanthrene	ND	74	39	ug/kg	
129-00-0	Pyrene	ND	42	39	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	39	33	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	73%		10-138%
4165-62-2	Phenol-d5	69%		10-176%
118-79-6	2,4,6-Tribromophenol	61%		10-156%
4165-60-0	Nitrobenzene-d5	48%		10-193%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-15	<b>Date Sampled:</b>	03/30/11
<b>Lab Sample ID:</b>	D22299-3	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	94.5
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	51%		20-138%
1718-51-0	Terphenyl-d14	58%		17-174%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-15	<b>Date Sampled:</b>	03/30/11
<b>Lab Sample ID:</b>	D22299-3	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	94.5
<b>Project:</b>	40th Street Outfall		

**Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	7.9	2.7	0.64	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Barium	59.0	1.1	0.12	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Cadmium	1.7	1.1	0.29	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Chromium	9.1	1.1	0.034	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Copper	9.8	1.1	0.17	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Iron	7840	7.6	2.2	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Lead	14.5	5.5	0.23	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Manganese	165	0.55	0.013	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Mercury	0.053 J	0.094	0.012	mg/kg	1	04/12/11	04/12/11	JB	SW846 7471A <sup>2</sup>
Selenium	0.55 U	5.5	0.55	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Silver	0.24 J	3.3	0.056	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Zinc	54.7	3.3	0.065	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>

(1) Instrument QC Batch: MA1440

(2) Instrument QC Batch: MA1451

(3) Prep QC Batch: MP4419

(4) Prep QC Batch: MP4441

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-17	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-4	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	88.0
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	3V10423.D	1	04/11/11	DC	n/a	n/a	V3V575
Run #2							

	<b>Initial Weight</b>	<b>Final Volume</b>	<b>Methanol Aliquot</b>
Run #1	5.03 g	5.0 ml	100 ul
Run #2			

**VOA HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
67-64-1	Acetone	ND	1300	630	ug/kg	
71-43-2	Benzene	ND	63	19	ug/kg	
75-27-4	Bromodichloromethane	ND	320	130	ug/kg	
75-25-2	Bromoform	ND	320	130	ug/kg	
108-90-7	Chlorobenzene	ND	320	130	ug/kg	
75-00-3	Chloroethane	ND	320	130	ug/kg	
67-66-3	Chloroform	ND	320	63	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	1300	760	ug/kg	
75-15-0	Carbon disulfide	ND	320	130	ug/kg	
56-23-5	Carbon tetrachloride	ND	320	130	ug/kg	
75-34-3	1,1-Dichloroethane	ND	320	130	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	320	130	ug/kg	
107-06-2	1,2-Dichloroethane	ND	320	63	ug/kg	
78-87-5	1,2-Dichloropropane	ND	320	130	ug/kg	
124-48-1	Dibromochloromethane	ND	320	130	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	320	130	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	320	130	ug/kg	
541-73-1	m-Dichlorobenzene	ND	320	130	ug/kg	
95-50-1	o-Dichlorobenzene	ND	320	130	ug/kg	
106-46-7	p-Dichlorobenzene	176	320	130	ug/kg	J
156-60-5	trans-1,2-Dichloroethylene	ND	320	130	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	320	130	ug/kg	
100-41-4	Ethylbenzene	163	130	25	ug/kg	
591-78-6	2-Hexanone	ND	1300	190	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	1300	190	ug/kg	
74-83-9	Methyl bromide	ND	320	130	ug/kg	
74-87-3	Methyl chloride	ND	320	130	ug/kg	
75-09-2	Methylene chloride	ND	320	130	ug/kg	
78-93-3	Methyl ethyl ketone	ND	1300	250	ug/kg	
100-42-5	Styrene	ND	320	130	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	320	63	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	630	130	ug/kg	

ND = Not detected      MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-17	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-4	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	88.0
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

**VOA HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-00-5	1,1,2-Trichloroethane	ND	320	130	ug/kg	
127-18-4	Tetrachloroethylene	ND	320	130	ug/kg	
108-88-3	Toluene	86.9	130	63	ug/kg	J
79-01-6	Trichloroethylene	ND	320	63	ug/kg	
75-01-4	Vinyl chloride	ND	320	130	ug/kg	
108-05-4	Vinyl Acetate	ND	1300	510	ug/kg	
1330-20-7	Xylene (total)	483	130	44	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	78%		70-130%
460-00-4	4-Bromofluorobenzene	83%		70-130%
17060-07-0	1,2-Dichloroethane-D4	79%		70-130%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-17	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-4	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	88.0
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	1G101651.D	10	04/08/11	TMB	04/06/11	OP3445	E1G400
Run #2							

	<b>Initial Weight</b>	<b>Final Volume</b>
Run #1	30.0 g	5.0 ml
Run #2		

**ABN HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
65-85-0	Benzoic Acid	ND	19000	10000	ug/kg	
95-57-8	2-Chlorophenol	ND	2300	2100	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	2100	1700	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	2100	1900	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	2300	2100	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	9500	7200	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	9500	7200	ug/kg	
95-48-7	2-Methylphenol	ND	2300	2100	ug/kg	
106-44-5	4-Methylphenol	ND	2300	2100	ug/kg	
88-75-5	2-Nitrophenol	ND	2300	2100	ug/kg	
100-02-7	4-Nitrophenol	ND	4000	2700	ug/kg	
87-86-5	Pentachlorophenol	ND	9500	5700	ug/kg	
108-95-2	Phenol	ND	4000	2800	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	2100	1800	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	2100	1800	ug/kg	
83-32-9	Acenaphthene	ND	2100	1600	ug/kg	
208-96-8	Acenaphthylene	ND	2100	1900	ug/kg	
120-12-7	Anthracene	ND	2100	1400	ug/kg	
56-55-3	Benzo(a)anthracene	ND	2100	1600	ug/kg	
50-32-8	Benzo(a)pyrene	ND	2100	1400	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	2300	2100	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	2100	1400	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	2700	2300	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	2100	1800	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	9500	5700	ug/kg	
100-51-6	Benzyl Alcohol	ND	4000	2500	ug/kg	
91-58-7	2-Chloronaphthalene	ND	2100	1600	ug/kg	
106-47-8	4-Chloroaniline	ND	2700	2300	ug/kg	
218-01-9	Chrysene	ND	2700	2300	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	4000	1900	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	2100	1700	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	9500	4700	ug/kg	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 2 of 3

<b>Client Sample ID:</b>	TH-17	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-4	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	88.0
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	2700	2300	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	2800	2300	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2100	1800	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2100	1800	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	3400	2800	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	3400	2800	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	4000	2300	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	2300	1700	ug/kg	
132-64-9	Dibenzofuran	ND	2100	1500	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	2100	1800	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	2300	2100	ug/kg	
84-66-2	Diethyl phthalate	ND	4000	2300	ug/kg	
131-11-3	Dimethyl phthalate	ND	4000	2300	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	9500	5700	ug/kg	
206-44-0	Fluoranthene	ND	4000	2100	ug/kg	
86-73-7	Fluorene	ND	2300	1900	ug/kg	
118-74-1	Hexachlorobenzene	ND	9500	5700	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2100	1800	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	9500	5700	ug/kg	
67-72-1	Hexachloroethane	ND	2300	2100	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2100	1500	ug/kg	
78-59-1	Isophorone	ND	2100	1800	ug/kg	
91-57-6	2-Methylnaphthalene	ND	2100	1600	ug/kg	
88-74-4	2-Nitroaniline	ND	2300	1900	ug/kg	
99-09-2	3-Nitroaniline	ND	4000	2300	ug/kg	
100-01-6	4-Nitroaniline	ND	9500	4500	ug/kg	
91-20-3	Naphthalene	ND	4000	1900	ug/kg	
98-95-3	Nitrobenzene	ND	9500	2800	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	9500	2800	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	9500	2800	ug/kg	
85-01-8	Phenanthrene	ND	4000	2100	ug/kg	
129-00-0	Pyrene	ND	2300	2100	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2100	1800	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	77%		10-138%
4165-62-2	Phenol-d5	70%		10-176%
118-79-6	2,4,6-Tribromophenol	0% <sup>a</sup>		10-156%
4165-60-0	Nitrobenzene-d5	72%		10-193%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-17	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-4	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	88.0
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	75%		20-138%
1718-51-0	Terphenyl-d14	77%		17-174%

(a) Outside control limits due to dilution.

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-17	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-4	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	88.0
<b>Project:</b>	40th Street Outfall		

**Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	6.8	2.9	0.69	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Barium	132	1.2	0.13	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Cadmium	1.2	1.2	0.32	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Chromium	12.3	1.2	0.036	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Copper	72.2	1.2	0.19	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Iron	17700	8.2	2.3	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Lead	205	5.9	0.25	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Manganese	257	0.59	0.014	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Mercury	0.16	0.11	0.015	mg/kg	1	04/12/11	04/12/11	JB	SW846 7471A <sup>2</sup>
Selenium	0.59 U	5.9	0.59	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Silver	0.69 J	3.5	0.060	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Zinc	337	3.5	0.070	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>

(1) Instrument QC Batch: MA1440

(2) Instrument QC Batch: MA1451

(3) Prep QC Batch: MP4419

(4) Prep QC Batch: MP4441

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-18	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-5	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	78.4
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	3V10424.D	1	04/11/11	DC	n/a	n/a	V3V575
Run #2							

	<b>Initial Weight</b>	<b>Final Volume</b>	<b>Methanol Aliquot</b>
Run #1	5.01 g	5.0 ml	100 ul
Run #2			

**VOA HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
67-64-1	Acetone	ND	1500	770	ug/kg	
71-43-2	Benzene	ND	77	23	ug/kg	
75-27-4	Bromodichloromethane	ND	390	150	ug/kg	
75-25-2	Bromoform	ND	390	150	ug/kg	
108-90-7	Chlorobenzene	ND	390	150	ug/kg	
75-00-3	Chloroethane	ND	390	150	ug/kg	
67-66-3	Chloroform	ND	390	77	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	1500	930	ug/kg	
75-15-0	Carbon disulfide	ND	390	150	ug/kg	
56-23-5	Carbon tetrachloride	ND	390	150	ug/kg	
75-34-3	1,1-Dichloroethane	ND	390	150	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	390	150	ug/kg	
107-06-2	1,2-Dichloroethane	ND	390	77	ug/kg	
78-87-5	1,2-Dichloropropane	ND	390	150	ug/kg	
124-48-1	Dibromochloromethane	ND	390	150	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	390	150	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	390	150	ug/kg	
541-73-1	m-Dichlorobenzene	ND	390	150	ug/kg	
95-50-1	o-Dichlorobenzene	ND	390	150	ug/kg	
106-46-7	p-Dichlorobenzene	ND	390	150	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	390	150	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	390	150	ug/kg	
100-41-4	Ethylbenzene	ND	150	31	ug/kg	
591-78-6	2-Hexanone	ND	1500	230	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	1500	230	ug/kg	
74-83-9	Methyl bromide	ND	390	150	ug/kg	
74-87-3	Methyl chloride	ND	390	150	ug/kg	
75-09-2	Methylene chloride	ND	390	150	ug/kg	
78-93-3	Methyl ethyl ketone	ND	1500	310	ug/kg	
100-42-5	Styrene	ND	390	150	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	390	77	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	770	150	ug/kg	

ND = Not detected      MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-18	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-5	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	78.4
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

**VOA HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-00-5	1,1,2-Trichloroethane	ND	390	150	ug/kg	
127-18-4	Tetrachloroethylene	ND	390	150	ug/kg	
108-88-3	Toluene	ND	150	77	ug/kg	
79-01-6	Trichloroethylene	ND	390	77	ug/kg	
75-01-4	Vinyl chloride	ND	390	150	ug/kg	
108-05-4	Vinyl Acetate	ND	1500	620	ug/kg	
1330-20-7	Xylene (total)	ND	150	54	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	78%		70-130%
460-00-4	4-Bromofluorobenzene	84%		70-130%
17060-07-0	1,2-Dichloroethane-D4	80%		70-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-18	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-5	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	78.4
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	1G101652.D	10	04/08/11	TMB	04/06/11	OP3445	E1G400
Run #2							

	<b>Initial Weight</b>	<b>Final Volume</b>
Run #1	30.1 g	5.0 ml
Run #2		

**ABN HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
65-85-0	Benzoic Acid	ND	21000	12000	ug/kg	
95-57-8	2-Chlorophenol	ND	2500	2300	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	2300	1900	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	2300	2100	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	2500	2300	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	11000	8100	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	11000	8100	ug/kg	
95-48-7	2-Methylphenol	ND	2500	2300	ug/kg	
106-44-5	4-Methylphenol	ND	2500	2300	ug/kg	
88-75-5	2-Nitrophenol	ND	2500	2300	ug/kg	
100-02-7	4-Nitrophenol	ND	4400	3000	ug/kg	
87-86-5	Pentachlorophenol	ND	11000	6400	ug/kg	
108-95-2	Phenol	ND	4400	3200	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	2300	2000	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	2300	2000	ug/kg	
83-32-9	Acenaphthene	ND	2300	1800	ug/kg	
208-96-8	Acenaphthylene	ND	2300	2100	ug/kg	
120-12-7	Anthracene	ND	2300	1600	ug/kg	
56-55-3	Benzo(a)anthracene	ND	2300	1800	ug/kg	
50-32-8	Benzo(a)pyrene	ND	2300	1600	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	2500	2300	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	2300	1600	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	3000	2500	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	2300	2000	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	11000	6400	ug/kg	
100-51-6	Benzyl Alcohol	ND	4400	2800	ug/kg	
91-58-7	2-Chloronaphthalene	ND	2300	1800	ug/kg	
106-47-8	4-Chloroaniline	ND	3000	2500	ug/kg	
218-01-9	Chrysene	ND	3000	2500	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	4400	2100	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	2300	1900	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	11000	5300	ug/kg	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound



**Report of Analysis**

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<b>Client Sample ID:</b>	TH-18	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-5	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	78.4
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	3000	2500	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	3200	2500	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	2300	2000	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	2300	2000	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	3800	3200	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	3800	3200	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	4400	2500	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	2500	1900	ug/kg	
132-64-9	Dibenzofuran	ND	2300	1700	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	2300	2000	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	2500	2300	ug/kg	
84-66-2	Diethyl phthalate	ND	4400	2500	ug/kg	
131-11-3	Dimethyl phthalate	ND	4400	2500	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	11000	6400	ug/kg	
206-44-0	Fluoranthene	ND	4400	2300	ug/kg	
86-73-7	Fluorene	ND	2500	2100	ug/kg	
118-74-1	Hexachlorobenzene	ND	11000	6400	ug/kg	
87-68-3	Hexachlorobutadiene	ND	2300	2000	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	11000	6400	ug/kg	
67-72-1	Hexachloroethane	ND	2500	2300	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2300	1700	ug/kg	
78-59-1	Isophorone	ND	2300	2000	ug/kg	
91-57-6	2-Methylnaphthalene	ND	2300	1800	ug/kg	
88-74-4	2-Nitroaniline	ND	2500	2100	ug/kg	
99-09-2	3-Nitroaniline	ND	4400	2500	ug/kg	
100-01-6	4-Nitroaniline	ND	11000	5100	ug/kg	
91-20-3	Naphthalene	ND	4400	2100	ug/kg	
98-95-3	Nitrobenzene	ND	11000	3200	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	11000	3200	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	11000	3200	ug/kg	
85-01-8	Phenanthrene	ND	4400	2300	ug/kg	
129-00-0	Pyrene	ND	2500	2300	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	2300	2000	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	70%		10-138%
4165-62-2	Phenol-d5	72%		10-176%
118-79-6	2,4,6-Tribromophenol	0% <sup>a</sup>		10-156%
4165-60-0	Nitrobenzene-d5	59%		10-193%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-18	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-5	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	78.4
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	71%		20-138%
1718-51-0	Terphenyl-d14	77%		17-174%

(a) Outside control limits due to dilution.

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-18	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-5	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	78.4
<b>Project:</b>	40th Street Outfall		

**Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.4	3.4	0.79	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Barium	93.4	1.3	0.15	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Cadmium	0.78 J	1.3	0.36	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Chromium	8.4	1.3	0.042	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Copper	12.0	1.3	0.21	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Iron	8690	9.4	2.7	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Lead	21.2	6.7	0.28	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Manganese	226	0.67	0.016	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Mercury	0.021 J	0.11	0.015	mg/kg	1	04/12/11	04/12/11	JB	SW846 7471A <sup>2</sup>
Selenium	0.67 U	6.7	0.67	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Silver	0.40 J	4.0	0.068	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Zinc	49.0	4.0	0.081	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>

- (1) Instrument QC Batch: MA1440  
 (2) Instrument QC Batch: MA1451  
 (3) Prep QC Batch: MP4419  
 (4) Prep QC Batch: MP4441

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-19	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-6	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	82.4
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	3V10425.D	1	04/11/11	DC	n/a	n/a	V3V575
Run #2							

	<b>Initial Weight</b>	<b>Final Volume</b>	<b>Methanol Aliquot</b>
Run #1	5.06 g	5.0 ml	100 ul
Run #2			

**VOA HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
67-64-1	Acetone	ND	1400	710	ug/kg	
71-43-2	Benzene	ND	71	21	ug/kg	
75-27-4	Bromodichloromethane	ND	350	140	ug/kg	
75-25-2	Bromoform	ND	350	140	ug/kg	
108-90-7	Chlorobenzene	ND	350	140	ug/kg	
75-00-3	Chloroethane	ND	350	140	ug/kg	
67-66-3	Chloroform	ND	350	71	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	1400	850	ug/kg	
75-15-0	Carbon disulfide	ND	350	140	ug/kg	
56-23-5	Carbon tetrachloride	ND	350	140	ug/kg	
75-34-3	1,1-Dichloroethane	ND	350	140	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	350	140	ug/kg	
107-06-2	1,2-Dichloroethane	ND	350	71	ug/kg	
78-87-5	1,2-Dichloropropane	ND	350	140	ug/kg	
124-48-1	Dibromochloromethane	ND	350	140	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	350	140	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	350	140	ug/kg	
541-73-1	m-Dichlorobenzene	ND	350	140	ug/kg	
95-50-1	o-Dichlorobenzene	ND	350	140	ug/kg	
106-46-7	p-Dichlorobenzene	ND	350	140	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	350	140	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	350	140	ug/kg	
100-41-4	Ethylbenzene	ND	140	28	ug/kg	
591-78-6	2-Hexanone	ND	1400	210	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	1400	210	ug/kg	
74-83-9	Methyl bromide	ND	350	140	ug/kg	
74-87-3	Methyl chloride	ND	350	140	ug/kg	
75-09-2	Methylene chloride	ND	350	140	ug/kg	
78-93-3	Methyl ethyl ketone	ND	1400	280	ug/kg	
100-42-5	Styrene	ND	350	140	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	350	71	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	710	140	ug/kg	

ND = Not detected      MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-19	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-6	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	82.4
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

**VOA HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-00-5	1,1,2-Trichloroethane	ND	350	140	ug/kg	
127-18-4	Tetrachloroethylene	ND	350	140	ug/kg	
108-88-3	Toluene	ND	140	71	ug/kg	
79-01-6	Trichloroethylene	ND	350	71	ug/kg	
75-01-4	Vinyl chloride	ND	350	140	ug/kg	
108-05-4	Vinyl Acetate	ND	1400	560	ug/kg	
1330-20-7	Xylene (total)	ND	140	49	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	78%		70-130%
460-00-4	4-Bromofluorobenzene	80%		70-130%
17060-07-0	1,2-Dichloroethane-D4	82%		70-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-19	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-6	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	82.4
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	1G101653.D	10	04/08/11	TMB	04/06/11	OP3445	E1G400
Run #2							

	<b>Initial Weight</b>	<b>Final Volume</b>
Run #1	30.1 g	2.0 ml
Run #2		

**ABN HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
65-85-0	Benzoic Acid	ND	8000	4400	ug/kg	
95-57-8	2-Chlorophenol	ND	970	890	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	890	730	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	890	810	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	970	890	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	4000	3100	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	4000	3100	ug/kg	
95-48-7	2-Methylphenol	ND	970	890	ug/kg	
106-44-5	4-Methylphenol	ND	970	890	ug/kg	
88-75-5	2-Nitrophenol	ND	970	890	ug/kg	
100-02-7	4-Nitrophenol	ND	1700	1100	ug/kg	
87-86-5	Pentachlorophenol	ND	4000	2400	ug/kg	
108-95-2	Phenol	ND	1700	1200	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	890	750	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	890	770	ug/kg	
83-32-9	Acenaphthene	ND	890	700	ug/kg	
208-96-8	Acenaphthylene	ND	890	810	ug/kg	
120-12-7	Anthracene	ND	890	600	ug/kg	
56-55-3	Benzo(a)anthracene	ND	890	700	ug/kg	
50-32-8	Benzo(a)pyrene	ND	890	600	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	970	890	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	890	600	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	1100	970	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	890	750	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	4000	2400	ug/kg	
100-51-6	Benzyl Alcohol	ND	1700	1000	ug/kg	
91-58-7	2-Chloronaphthalene	ND	890	700	ug/kg	
106-47-8	4-Chloroaniline	ND	1100	970	ug/kg	
218-01-9	Chrysene	ND	1100	970	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	1700	800	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	890	730	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	4000	2000	ug/kg	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound



**Report of Analysis**

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<b>Client Sample ID:</b>	TH-19	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-6	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	82.4
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	1100	970	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1200	970	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	890	770	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	890	750	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	1500	1200	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	1500	1200	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	1700	970	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	970	730	ug/kg	
132-64-9	Dibenzofuran	ND	890	650	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	890	770	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	970	890	ug/kg	
84-66-2	Diethyl phthalate	ND	1700	970	ug/kg	
131-11-3	Dimethyl phthalate	ND	1700	970	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	4000	2400	ug/kg	
206-44-0	Fluoranthene	ND	1700	890	ug/kg	
86-73-7	Fluorene	ND	970	810	ug/kg	
118-74-1	Hexachlorobenzene	ND	4000	2400	ug/kg	
87-68-3	Hexachlorobutadiene	ND	890	750	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	4000	2400	ug/kg	
67-72-1	Hexachloroethane	ND	970	890	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	890	650	ug/kg	
78-59-1	Isophorone	ND	890	750	ug/kg	
91-57-6	2-Methylnaphthalene	ND	890	680	ug/kg	
88-74-4	2-Nitroaniline	ND	970	810	ug/kg	
99-09-2	3-Nitroaniline	ND	1700	970	ug/kg	
100-01-6	4-Nitroaniline	ND	4000	1900	ug/kg	
91-20-3	Naphthalene	ND	1700	810	ug/kg	
98-95-3	Nitrobenzene	ND	4000	1200	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	4000	1200	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	4000	1200	ug/kg	
85-01-8	Phenanthrene	ND	1700	890	ug/kg	
129-00-0	Pyrene	ND	970	890	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	890	750	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	92%		10-138%
4165-62-2	Phenol-d5	91%		10-176%
118-79-6	2,4,6-Tribromophenol	120%		10-156%
4165-60-0	Nitrobenzene-d5	66%		10-193%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-19	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-6	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	82.4
<b>Method:</b>	SW846 8270C SW846 3540C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	77%		20-138%
1718-51-0	Terphenyl-d14	87%		17-174%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b>	TH-19	<b>Date Sampled:</b>	03/31/11
<b>Lab Sample ID:</b>	D22299-6	<b>Date Received:</b>	04/01/11
<b>Matrix:</b>	SO - Soil	<b>Percent Solids:</b>	82.4
<b>Project:</b>	40th Street Outfall		

**Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	11.2	3.1	0.74	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Barium	197	1.3	0.14	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Cadmium	2.4	1.3	0.34	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Chromium	8.9	1.3	0.039	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Copper	33.0	1.3	0.20	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Iron	17500	8.8	2.5	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Lead	162	6.3	0.26	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Manganese	174	0.63	0.015	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Mercury	0.37	0.12	0.016	mg/kg	1	04/12/11	04/12/11	JB	SW846 7471A <sup>2</sup>
Selenium	0.63 U	6.3	0.63	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Silver	0.99 J	3.8	0.064	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>
Zinc	162	3.8	0.075	mg/kg	1	04/07/11	04/07/11	JB	SW846 6010B <sup>1</sup>

(1) Instrument QC Batch: MA1440

(2) Instrument QC Batch: MA1451

(3) Prep QC Batch: MP4419

(4) Prep QC Batch: MP4441

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL



## Misc. Forms

### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody



**CHAIN OF CUSTODY**

PAGE \_\_\_\_ OF \_\_\_\_

Accutest Laboratories Mountain States  
4036 Youngfield Street Wheat Ridge, Co 80033  
TEL. 303-425-6021 877-737-4521  
FAX 303-425-6021

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # D22299

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)		Matrix Codes											
Company Name <b>CLC   Thompson</b>		Project Name <b>YORK STREET OVERB</b>				DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank											
Street Address <b>1571 W 12th Ave</b>		Street:															
City <b>BURNABY CO</b>	State <b>BC</b>	Zip <b>V5C 2T7</b>	City: <b>BURNABY</b>	Billing Information (If different from Report to)													
Project Contact <b>M. TALOLO</b>		E-mail <b>44666-205</b>		Company Name													
Phone # <b>303-225-0277</b>		Fax # <b>720-901-1720</b>		Street Address													
Sample(s) Name(s) <b>N. TALOLO</b>		Phone # <b>303-484-9924</b>		Client PO# <b>Project Manager</b>	City <b>State</b>	Zip											
				Attention: <b>PO#</b>													
Accesst Sample #	Field ID / Point of Collection	Collection			Number of preserved Bottles						G260	Split-VCA 8273	RCRA 8 METALS	LAB USE ONLY			
		Date	Time	Sampled by	Matrix	# of bottles	HCl	NH3	HN03	H2SO4					None	D/Water	MEOH
TH-13	3/20/11	11:50	NTSO	2		X	>									01	
TH-14	3/21/11	7:50	" "	2		X	>									02	
TH-15	3/20/11	14:40	" "	2		X	T	T								03	
TH-17	3/21/11	10:30	" "	1		X	F	<								04	
TH-18	3/21/11	13:45	" "	1		X	T	Y								05	
TH-19	3/21/11	15:45	" "	1		X	Y	Y								06	
Turnaround Time (Business days)		Approved By (Accesst PM): / Date:		Data Deliverable Information						Comments / Special Instructions							
<input checked="" type="checkbox"/> Std. 10 Business Days			<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> State Forms <input checked="" type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> EDD Format <input type="checkbox"/> Commercial "B" + Narrative <input type="checkbox"/> PDF <input type="checkbox"/> FULLTI (Level 3+4)						<b>EMAIL</b>  <b>NATALOLO@CLCTHOMPSON.COM</b> <b>SPLIT SAMPLES #17, 18, 19</b> <b>303-8260-0710 4/1/11</b>								
<input type="checkbox"/> Std. 5 Business Days (By Contract only)																	
<input type="checkbox"/> 5 Day <del>RE</del> SH																	
<input type="checkbox"/> 3 Day EMERGENC																	
<input type="checkbox"/> 2 Day EMERGENC																	
<input type="checkbox"/> 1 Day EMERGENC																	
Emergency & Rush T/A data available VIA LabLink																	
Sample Custody must be documented below each time samples change possession, including courier delivery.																	
Relinquished by Sample	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:												
1	3/21/11 17:44	1. Jacob patru 4/1/11	2														
Relinquished by Sample:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:												
3		3	4														
Relinquished by:	Date Time:	Received By:	Custody Seal #	Infect	Preserved where applicable							On Ice	Cooler Temp.				
5		5		<input type="checkbox"/> Not Infect	<input type="checkbox"/> Preserved							<input type="checkbox"/> On Ice	47°C				

## D22299: Chain of Custody

Page 1 of 3



## Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D22299

Client: \_\_\_\_\_

Immediate Client Services Action Required: No

Date / Time Received: 4/1/2011

No. Coolers: \_\_\_\_\_

Client Service Action Required at Login: No

Project: \_\_\_\_\_

Airbill #'s: \_\_\_\_\_

**Cooler Security****Y or N**

1. Custody Seals Present:      3. COC Present:    
 2. Custody Seals Intact:      4. Smpl Dates/Time OK

**Cooler Temperature****Y or N**

1. Temp criteria achieved:    
 2. Cooler temp verification: Infrared gun  
 3. Cooler media: Ice (bag)

**Quality Control Preservation****Y or N****N/A**

1. Trip Blank present / cooler:    
 2. Trip Blank listed on COC:    
 3. Samples preserved properly:    
 4. VOCs headspace free:

**Sample Integrity - Documentation****Y or N**

1. Sample labels present on bottles:    
 2. Container labeling complete:    
 3. Sample container label / COC agree:

**Sample Integrity - Condition****Y or N**

1. Sample recvd within HT:    
 2. All containers accounted for:    
 3. Condition of sample: Intact

**Sample Integrity - Instructions****Y or N****N/A**

1. Analysis requested is clear:    
 2. Bottles received for unspecified tests:    
 3. Sufficient volume rec'd for analysis:    
 4. Compositing instructions clear:     
 5. Filtering instructions clear:

Comments

Accutest Laboratories  
V:(303) 425-60214036 Youngfield Street  
F: (303) 425-6854Wheat Ridge, CO  
www.accutest.com

D22299: Chain of Custody

Page 2 of 3



<b>Job Change Order:</b>	D22299_4/26/2011
<b>Requested Date:</b>	4/26/2011
<b>Account Name:</b>	CTL/Thompson, Inc.
<b>Project Description:</b>	40th Street Outfall
<b>CSR:</b>	AK
<b>Sample #:</b>	D22299-all
<b>Change:</b>	As per client, please relog on original sample and R sample for billing purposes only for CU,FE,MN and ZN. Please reissue to NTalocco@CTLThompson.com
<b>Received Date:</b>	4/1/2011
<b>Due Date:</b>	4/15/2011
<b>Deliverable:</b>	COMMB
<b>TAT (Days):</b>	14

**Date:** 4/26/2011

Nick Talocco

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service

Page 1 of 1

D22299: Chain of Custody

Page 3 of 3



## GC/MS Volatiles

### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

## Method Blank Summary

Page 1 of 2

Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V870-MB1	5V14799.D	1	04/10/11	DC	n/a	n/a	V5V870

The QC reported here applies to the following samples:

Method: SW846 8260B

D22299-1, D22299-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	1000	500	ug/kg	
71-43-2	Benzene	ND	50	15	ug/kg	
75-27-4	Bromodichloromethane	ND	250	100	ug/kg	
75-25-2	Bromoform	ND	250	100	ug/kg	
108-90-7	Chlorobenzene	ND	250	100	ug/kg	
75-00-3	Chloroethane	ND	250	100	ug/kg	
67-66-3	Chloroform	ND	250	50	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	1000	600	ug/kg	
75-15-0	Carbon disulfide	ND	250	100	ug/kg	
56-23-5	Carbon tetrachloride	ND	250	100	ug/kg	
75-34-3	1,1-Dichloroethane	ND	250	100	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	250	100	ug/kg	
107-06-2	1,2-Dichloroethane	ND	250	50	ug/kg	
78-87-5	1,2-Dichloropropane	ND	250	100	ug/kg	
124-48-1	Dibromochloromethane	ND	250	100	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	250	100	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	250	100	ug/kg	
541-73-1	m-Dichlorobenzene	ND	250	100	ug/kg	
95-50-1	o-Dichlorobenzene	ND	250	100	ug/kg	
106-46-7	p-Dichlorobenzene	ND	250	100	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	250	100	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	250	100	ug/kg	
100-41-4	Ethylbenzene	ND	100	20	ug/kg	
591-78-6	2-Hexanone	ND	1000	150	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	1000	150	ug/kg	
74-83-9	Methyl bromide	ND	250	100	ug/kg	
74-87-3	Methyl chloride	ND	250	100	ug/kg	
75-09-2	Methylene chloride	ND	250	100	ug/kg	
78-93-3	Methyl ethyl ketone	ND	1000	200	ug/kg	
100-42-5	Styrene	ND	250	100	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	250	50	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	500	100	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	250	100	ug/kg	
127-18-4	Tetrachloroethylene	ND	250	100	ug/kg	
108-88-3	Toluene	ND	100	50	ug/kg	
79-01-6	Trichloroethylene	ND	250	50	ug/kg	

## Method Blank Summary

Page 2 of 2

Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V870-MB1	5V14799.D	1	04/10/11	DC	n/a	n/a	V5V870

The QC reported here applies to the following samples:

Method: SW846 8260B

D22299-1, D22299-3

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	250	100	ug/kg	
108-05-4	Vinyl Acetate	ND	1000	400	ug/kg	
1330-20-7	Xylene (total)	36.2	100	35	ug/kg	J

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	86%
460-00-4	4-Bromofluorobenzene	84%
17060-07-0	1,2-Dichloroethane-D4	87%

## Method Blank Summary

Page 1 of 2

Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V575-MB1	3V10418.D	1	04/10/11	DC	n/a	n/a	V3V575

The QC reported here applies to the following samples:

Method: SW846 8260B

D22299-2, D22299-4, D22299-5, D22299-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	1000	500	ug/kg	
71-43-2	Benzene	ND	50	15	ug/kg	
75-27-4	Bromodichloromethane	ND	250	100	ug/kg	
75-25-2	Bromoform	ND	250	100	ug/kg	
108-90-7	Chlorobenzene	ND	250	100	ug/kg	
75-00-3	Chloroethane	ND	250	100	ug/kg	
67-66-3	Chloroform	ND	250	50	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	1000	600	ug/kg	
75-15-0	Carbon disulfide	ND	250	100	ug/kg	
56-23-5	Carbon tetrachloride	ND	250	100	ug/kg	
75-34-3	1,1-Dichloroethane	ND	250	100	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	250	100	ug/kg	
107-06-2	1,2-Dichloroethane	ND	250	50	ug/kg	
78-87-5	1,2-Dichloropropane	ND	250	100	ug/kg	
124-48-1	Dibromochloromethane	ND	250	100	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	250	100	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	250	100	ug/kg	
541-73-1	m-Dichlorobenzene	ND	250	100	ug/kg	
95-50-1	o-Dichlorobenzene	ND	250	100	ug/kg	
106-46-7	p-Dichlorobenzene	ND	250	100	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	250	100	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	250	100	ug/kg	
100-41-4	Ethylbenzene	ND	100	20	ug/kg	
591-78-6	2-Hexanone	ND	1000	150	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	1000	150	ug/kg	
74-83-9	Methyl bromide	ND	250	100	ug/kg	
74-87-3	Methyl chloride	ND	250	100	ug/kg	
75-09-2	Methylene chloride	ND	250	100	ug/kg	
78-93-3	Methyl ethyl ketone	ND	1000	200	ug/kg	
100-42-5	Styrene	ND	250	100	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	250	50	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	500	100	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	250	100	ug/kg	
127-18-4	Tetrachloroethylene	ND	250	100	ug/kg	
108-88-3	Toluene	ND	100	50	ug/kg	
79-01-6	Trichloroethylene	ND	250	50	ug/kg	

4.1.2  
4

## Method Blank Summary

Page 2 of 2

Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V575-MB1	3V10418.D	1	04/10/11	DC	n/a	n/a	V3V575

The QC reported here applies to the following samples:

Method: SW846 8260B

D22299-2, D22299-4, D22299-5, D22299-6

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	250	100	ug/kg	
108-05-4	Vinyl Acetate	ND	1000	400	ug/kg	
1330-20-7	Xylene (total)	ND	100	35	ug/kg	

CAS No.	Surrogate Recoveries	Limits
2037-26-5	Toluene-D8	82%
460-00-4	4-Bromofluorobenzene	77%
17060-07-0	1,2-Dichloroethane-D4	81%

## Blank Spike Summary

Page 1 of 2

Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V870-BS1	5V14800.D	1	04/10/11	DC	n/a	n/a	V5V870

The QC reported here applies to the following samples:

Method: SW846 8260B

D22299-1, D22299-3

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	50	35.0	70	34-130
71-43-2	Benzene	50	42.8	86	68-130
75-27-4	Bromodichloromethane	50	45.8	92	65-133
75-25-2	Bromoform	50	45.4	91	55-130
108-90-7	Chlorobenzene	50	42.4	85	70-130
75-00-3	Chloroethane	50	35.0	70	67-130
67-66-3	Chloroform	50	45.9	92	70-130
110-75-8	2-Chloroethyl vinyl ether	50	34.2	68	20-177
75-15-0	Carbon disulfide	50	38.3	77	23-130
56-23-5	Carbon tetrachloride	50	52.0	104	62-130
75-34-3	1,1-Dichloroethane	50	42.1	84	70-130
75-35-4	1,1-Dichloroethylene	50	42.3	85	70-130
107-06-2	1,2-Dichloroethane	50	45.4	91	70-130
78-87-5	1,2-Dichloropropane	50	42.0	84	70-130
124-48-1	Dibromochloromethane	50	46.8	94	65-130
156-59-2	cis-1,2-Dichloroethylene	50	42.8	86	70-130
10061-01-5	cis-1,3-Dichloropropene	50	44.7	89	66-130
541-73-1	m-Dichlorobenzene	50	38.4	77	70-130
95-50-1	o-Dichlorobenzene	50	39.7	79	70-130
106-46-7	p-Dichlorobenzene	50	37.3	75	70-130
156-60-5	trans-1,2-Dichloroethylene	50	41.7	83	70-130
10061-02-6	trans-1,3-Dichloropropene	50	44.9	90	70-130
100-41-4	Ethylbenzene	50	43.6	87	70-130
591-78-6	2-Hexanone	50	29.6	59	46-130
108-10-1	4-Methyl-2-pentanone	50	36.4	73	58-130
74-83-9	Methyl bromide	50	37.1	74	40-145
74-87-3	Methyl chloride	50	26.5	53	42-130
75-09-2	Methylene chloride	50	38.4	77	70-130
78-93-3	Methyl ethyl ketone	50	41.8	84	21-130
100-42-5	Styrene	50	41.8	84	38-130
71-55-6	1,1,1-Trichloroethane	50	49.2	98	68-130
79-34-5	1,1,2,2-Tetrachloroethane	50	36.4	73	70-130
79-00-5	1,1,2-Trichloroethane	50	41.9	84	70-130
127-18-4	Tetrachloroethylene	50	44.7	89	70-130
108-88-3	Toluene	50	40.8	82	70-130
79-01-6	Trichloroethylene	50	44.7	89	70-130

4.2.1  
4

## Blank Spike Summary

Page 2 of 2

Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V870-BS1	5V14800.D	1	04/10/11	DC	n/a	n/a	V5V870

The QC reported here applies to the following samples:

Method: SW846 8260B

D22299-1, D22299-3

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
75-01-4	Vinyl chloride	50	29.8	60	55-130
108-05-4	Vinyl Acetate	50	45.7	91	54-130
1330-20-7	Xylene (total)	100	79.1	79	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	95%	70-130%
460-00-4	4-Bromofluorobenzene	98%	70-130%
17060-07-0	1,2-Dichloroethane-D4	94%	70-130%

4.2.1  
4

## Blank Spike Summary

Page 1 of 2

Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V575-BS1	3V10419.D	1	04/10/11	DC	n/a	n/a	V3V575

The QC reported here applies to the following samples:

Method: SW846 8260B

D22299-2, D22299-4, D22299-5, D22299-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	50	46.9	94	34-130
71-43-2	Benzene	50	46.3	93	68-130
75-27-4	Bromodichloromethane	50	47.2	94	65-133
75-25-2	Bromoform	50	43.6	87	55-130
108-90-7	Chlorobenzene	50	46.3	93	70-130
75-00-3	Chloroethane	50	39.0	78	67-130
67-66-3	Chloroform	50	50.5	101	70-130
110-75-8	2-Chloroethyl vinyl ether	50	57.6	115	20-177
75-15-0	Carbon disulfide	50	46.0	92	23-130
56-23-5	Carbon tetrachloride	50	49.0	98	62-130
75-34-3	1,1-Dichloroethane	50	51.5	103	70-130
75-35-4	1,1-Dichloroethylene	50	48.2	96	70-130
107-06-2	1,2-Dichloroethane	50	48.2	96	70-130
78-87-5	1,2-Dichloropropane	50	47.9	96	70-130
124-48-1	Dibromochloromethane	50	45.2	90	65-130
156-59-2	cis-1,2-Dichloroethylene	50	48.8	98	70-130
10061-01-5	cis-1,3-Dichloropropene	50	43.9	88	66-130
541-73-1	m-Dichlorobenzene	50	42.3	85	70-130
95-50-1	o-Dichlorobenzene	50	44.2	88	70-130
106-46-7	p-Dichlorobenzene	50	42.2	84	70-130
156-60-5	trans-1,2-Dichloroethylene	50	48.7	97	70-130
10061-02-6	trans-1,3-Dichloropropene	50	42.0	84	70-130
100-41-4	Ethylbenzene	50	47.6	95	70-130
591-78-6	2-Hexanone	50	40.5	81	46-130
108-10-1	4-Methyl-2-pentanone	50	43.8	88	58-130
74-83-9	Methyl bromide	50	31.8	64	40-145
74-87-3	Methyl chloride	50	32.4	65	42-130
75-09-2	Methylene chloride	50	49.1	98	70-130
78-93-3	Methyl ethyl ketone	50	43.4	87	21-130
100-42-5	Styrene	50	44.2	88	38-130
71-55-6	1,1,1-Trichloroethane	50	46.0	92	68-130
79-34-5	1,1,2,2-Tetrachloroethane	50	45.9	92	70-130
79-00-5	1,1,2-Trichloroethane	50	47.2	94	70-130
127-18-4	Tetrachloroethylene	50	44.4	89	70-130
108-88-3	Toluene	50	44.9	90	70-130
79-01-6	Trichloroethylene	50	48.1	96	70-130

4.2.2  
4

## Blank Spike Summary

Page 2 of 2

Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V575-BS1	3V10419.D	1	04/10/11	DC	n/a	n/a	V3V575

The QC reported here applies to the following samples:

Method: SW846 8260B

D22299-2, D22299-4, D22299-5, D22299-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
75-01-4	Vinyl chloride	50	36.2	72	55-130
108-05-4	Vinyl Acetate	50	39.8	80	54-130
1330-20-7	Xylene (total)	100	84.2	84	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	80%	70-130%
460-00-4	4-Bromofluorobenzene	77%	70-130%
17060-07-0	1,2-Dichloroethane-D4	82%	70-130%

4.2.2  
4

# Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D22273-4MS	5V14803.D	1	04/10/11	DC	n/a	n/a	V5V870
D22273-4MSD	5V14804.D	1	04/10/11	DC	n/a	n/a	V5V870
D22273-4	5V14805.D	1	04/10/11	DC	n/a	n/a	V5V870

The QC reported here applies to the following samples:

Method: SW846 8260B

D22299-1, D22299-3

CAS No.	Compound	D22273-4 ug/kg	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND	3310	2480	75	2500	76	1	34-130/30
71-43-2	Benzene	ND	3310	3440	104	3720	113	8	55-140/30
75-27-4	Bromodichloromethane	ND	3310	3520	106	3860	117	9	50-146/30
75-25-2	Bromoform	ND	3310	3100	94	3330	101	7	56-130/30
108-90-7	Chlorobenzene	ND	3310	3340	101	3560	108	6	66-130/30
75-00-3	Chloroethane	ND	3310	2740	83	2980	90	8	62-130/30
67-66-3	Chloroform	ND	3310	3620	110	3910	118	8	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND	3310	2440	74	2670	81	9	20-162/30
75-15-0	Carbon disulfide	ND	3310	3020	91	3190	97	5	19-130/30
56-23-5	Carbon tetrachloride	ND	3310	4500	136	4960	150* <sup>a</sup>	10	54-141/30
75-34-3	1,1-Dichloroethane	ND	3310	3450	104	3710	112	7	70-130/30
75-35-4	1,1-Dichloroethylene	ND	3310	3400	103	3680	111	8	70-140/30
107-06-2	1,2-Dichloroethane	ND	3310	3410	103	3640	110	7	68-130/30
78-87-5	1,2-Dichloropropane	ND	3310	3280	99	3530	107	7	70-130/30
124-48-1	Dibromochloromethane	ND	3310	3460	105	3780	114	9	56-130/30
156-59-2	cis-1,2-Dichloroethylene	ND	3310	3410	103	3660	111	7	70-130/30
10061-01-5	cis-1,3-Dichloropropene	ND	3310	3060	93	3250	98	6	56-130/30
541-73-1	m-Dichlorobenzene	ND	3310	2880	87	3030	92	5	70-130/30
95-50-1	o-Dichlorobenzene	ND	3310	2950	89	3130	95	6	70-130/30
106-46-7	p-Dichlorobenzene	ND	3310	2790	84	2930	89	5	70-130/30
156-60-5	trans-1,2-Dichloroethylene	ND	3310	3360	102	3590	109	7	64-130/30
10061-02-6	trans-1,3-Dichloropropene	ND	3310	2880	87	3100	94	7	53-130/30
100-41-4	Ethylbenzene	ND	3310	3550	107	3850	116	8	56-139/30
591-78-6	2-Hexanone	ND	3310	2060	62	2220	67	7	48-132/30
108-10-1	4-Methyl-2-pentanone	ND	3310	2640	80	2890	87	9	58-138/30
74-83-9	Methyl bromide	ND	3310	2820	85	2910	88	3	10-165/30
74-87-3	Methyl chloride	ND	3310	2090	63	2220	67	6	35-130/30
75-09-2	Methylene chloride	ND	3310	2980	90	3250	98	9	70-130/30
78-93-3	Methyl ethyl ketone	ND	3310	2900	88	3050	92	5	20-130/30
100-42-5	Styrene	ND	3310	3220	97	3470	105	7	33-130/30
71-55-6	1,1,1-Trichloroethane	ND	3310	4190	127	4570	138	9	55-138/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	3310	2350	71	2520	76	7	69-130/30
79-00-5	1,1,2-Trichloroethane	ND	3310	2960	90	3200	97	8	62-134/30
127-18-4	Tetrachloroethylene	ND	3310	3610	109	3820	116	6	47-136/30
108-88-3	Toluene	ND	3310	3340	101	3580	108	7	57-144/30
79-01-6	Trichloroethylene	ND	3310	3890	118	4250	129	9	70-149/30

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# Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D22273-4MS	5V14803.D	1	04/10/11	DC	n/a	n/a	V5V870
D22273-4MSD	5V14804.D	1	04/10/11	DC	n/a	n/a	V5V870
D22273-4	5V14805.D	1	04/10/11	DC	n/a	n/a	V5V870

The QC reported here applies to the following samples:

Method: SW846 8260B

D22299-1, D22299-3

CAS No.	Compound	D22273-4		Spike	MS	MS	MSD	MSD	RPD	Limits Rec/RPD
		ug/kg	Q	ug/kg	ug/kg	%	ug/kg	%		
75-01-4	Vinyl chloride	ND		3310	2200	67	2410	73	9	59-131/30
108-05-4	Vinyl Acetate	ND		3310	5850	177* b	6780	205* b	15	20-141/30
1330-20-7	Xylene (total)	54.2	J	6610	6490	97	7000	105	8	51-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D22273-4	Limits
2037-26-5	Toluene-D8	79%	85%	93%	70-130%
460-00-4	4-Bromofluorobenzene	87%	94%	89%	70-130%
17060-07-0	1,2-Dichloroethane-D4	88%	94%	101%	70-130%

(a) Outside control limits due to possible matrix interference.

(b) Outside control limits due to matrix interference. Confirmed by reanalysis.



# Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D22299-2MS	3V10421.D	1	04/10/11	DC	n/a	n/a	V3V575
D22299-2MSD	3V10422.D	1	04/11/11	DC	n/a	n/a	V3V575
D22299-2	3V10420.D	1	04/10/11	DC	n/a	n/a	V3V575

The QC reported here applies to the following samples:

Method: SW846 8260B

D22299-2, D22299-4, D22299-5, D22299-6

CAS No.	Compound	D22299-2 ug/kg	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND	3220	3250	101	3210	100	1	34-130/30
71-43-2	Benzene	ND	3220	3550	110	3540	110	0	55-140/30
75-27-4	Bromodichloromethane	ND	3220	3660	114	3660	114	0	50-146/30
75-25-2	Bromoform	ND	3220	3300	102	3360	104	2	56-130/30
108-90-7	Chlorobenzene	ND	3220	3640	113	3660	114	1	66-130/30
75-00-3	Chloroethane	ND	3220	2660	83	2710	84	2	62-130/30
67-66-3	Chloroform	ND	3220	3900	121	3890	121	0	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND	3220	4350	135	4270	133	2	20-162/30
75-15-0	Carbon disulfide	ND	3220	2830	88	2830	88	0	19-130/30
56-23-5	Carbon tetrachloride	ND	3220	3720	116	3780	117	2	54-141/30
75-34-3	1,1-Dichloroethane	ND	3220	3840	119	3830	119	0	70-130/30
75-35-4	1,1-Dichloroethylene	ND	3220	3330	103	3400	106	2	70-140/30
107-06-2	1,2-Dichloroethane	ND	3220	3540	110	3550	110	0	68-130/30
78-87-5	1,2-Dichloropropane	ND	3220	3690	115	3640	113	1	70-130/30
124-48-1	Dibromochloromethane	ND	3220	3550	110	3550	110	0	56-130/30
156-59-2	cis-1,2-Dichloroethylene	ND	3220	3690	115	3690	115	0	70-130/30
10061-01-5	cis-1,3-Dichloropropene	ND	3220	3450	107	3480	108	1	56-130/30
541-73-1	m-Dichlorobenzene	ND	3220	3350	104	3320	103	1	70-130/30
95-50-1	o-Dichlorobenzene	ND	3220	3390	105	3330	103	2	70-130/30
106-46-7	p-Dichlorobenzene	ND	3220	3310	103	3300	102	0	70-130/30
156-60-5	trans-1,2-Dichloroethylene	ND	3220	3530	110	3570	111	1	64-130/30
10061-02-6	trans-1,3-Dichloropropene	ND	3220	3250	101	3270	102	1	53-130/30
100-41-4	Ethylbenzene	ND	3220	3800	118	3770	117	1	56-139/30
591-78-6	2-Hexanone	ND	3220	2900	90	2930	91	1	48-132/30
108-10-1	4-Methyl-2-pentanone	ND	3220	3040	94	3010	93	1	58-138/30
74-83-9	Methyl bromide	ND	3220	498	15	536	17	7	10-165/30
74-87-3	Methyl chloride	ND	3220	1740	54	1730	54	1	35-130/30
75-09-2	Methylene chloride	ND	3220	3610	112	3540	110	2	70-130/30
78-93-3	Methyl ethyl ketone	ND	3220	3170	98	3260	101	3	20-130/30
100-42-5	Styrene	ND	3220	3620	112	3600	112	1	33-130/30
71-55-6	1,1,1-Trichloroethane	ND	3220	3600	112	3590	111	0	55-138/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	3220	3220	100	3280	102	2	69-130/30
79-00-5	1,1,2-Trichloroethane	ND	3220	3760	117	3690	115	2	62-134/30
127-18-4	Tetrachloroethylene	ND	3220	3450	107	3400	106	1	47-136/30
108-88-3	Toluene	ND	3220	3510	109	3530	110	1	57-144/30
79-01-6	Trichloroethylene	ND	3220	3800	118	3770	117	1	70-149/30

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# Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D22299-2MS	3V10421.D	1	04/10/11	DC	n/a	n/a	V3V575
D22299-2MSD	3V10422.D	1	04/11/11	DC	n/a	n/a	V3V575
D22299-2	3V10420.D	1	04/10/11	DC	n/a	n/a	V3V575

The QC reported here applies to the following samples:

Method: SW846 8260B

D22299-2, D22299-4, D22299-5, D22299-6

CAS No.	Compound	D22299-2		Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
		ug/kg	Q							
75-01-4	Vinyl chloride	ND		3220	2020	63	2040	63	1	59-131/30
108-05-4	Vinyl Acetate	ND		3220	2850	88	3050	95	7	20-141/30
1330-20-7	Xylene (total)	ND		6440	7030	109	6920	107	2	51-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D22299-2	Limits
2037-26-5	Toluene-D8	78%	79%	76%	70-130%
460-00-4	4-Bromofluorobenzene	80%	81%	79%	70-130%
17060-07-0	1,2-Dichloroethane-D4	81%	85%	82%	70-130%

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## GC/MS Semi-volatiles

### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

## Method Blank Summary

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Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3445-MB	1G101630.D	1	04/07/11	TMB	04/06/11	OP3445	E1G400

The QC reported here applies to the following samples:

Method: SW846 8270C

D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	330	180	ug/kg	
95-57-8	2-Chlorophenol	ND	40	37	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	37	30	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	37	33	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	40	37	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	170	130	ug/kg	
95-48-7	2-Methylphenol	ND	40	37	ug/kg	
106-44-5	4-Methylphenol	ND	40	37	ug/kg	
88-75-5	2-Nitrophenol	ND	40	37	ug/kg	
100-02-7	4-Nitrophenol	ND	70	47	ug/kg	
87-86-5	Pentachlorophenol	ND	170	100	ug/kg	
108-95-2	Phenol	ND	70	50	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	37	31	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	37	32	ug/kg	
83-32-9	Acenaphthene	ND	37	29	ug/kg	
208-96-8	Acenaphthylene	ND	37	33	ug/kg	
120-12-7	Anthracene	ND	37	25	ug/kg	
56-55-3	Benzo(a)anthracene	ND	37	29	ug/kg	
50-32-8	Benzo(a)pyrene	ND	37	25	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	40	37	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	37	25	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	47	40	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	37	31	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	170	100	ug/kg	
100-51-6	Benzyl Alcohol	ND	70	43	ug/kg	
91-58-7	2-Chloronaphthalene	ND	37	29	ug/kg	
106-47-8	4-Chloroaniline	ND	47	40	ug/kg	
218-01-9	Chrysene	ND	47	40	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	70	33	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	37	30	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	170	83	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	47	40	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	50	40	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	37	32	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	37	31	ug/kg	



## Method Blank Summary

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Job Number: D22299  
Account: CTLTCOD CTL/Thompson, Inc.  
Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3445-MB	1G101630.D	1	04/07/11	TMB	04/06/11	OP3445	E1G400

The QC reported here applies to the following samples:

Method: SW846 8270C

D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

CAS No.	Compound	Result	RL	MDL	Units	Q
121-14-2	2,4-Dinitrotoluene	ND	60	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	60	50	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	70	40	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	40	30	ug/kg	
132-64-9	Dibenzofuran	ND	37	27	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	37	32	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	40	37	ug/kg	
84-66-2	Diethyl phthalate	ND	70	40	ug/kg	
131-11-3	Dimethyl phthalate	ND	70	40	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	170	100	ug/kg	
206-44-0	Fluoranthene	ND	70	37	ug/kg	
86-73-7	Fluorene	ND	40	33	ug/kg	
118-74-1	Hexachlorobenzene	ND	170	100	ug/kg	
87-68-3	Hexachlorobutadiene	ND	37	31	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	170	100	ug/kg	
67-72-1	Hexachloroethane	ND	40	37	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	37	27	ug/kg	
78-59-1	Isophorone	ND	37	31	ug/kg	
91-57-6	2-Methylnaphthalene	ND	37	28	ug/kg	
88-74-4	2-Nitroaniline	ND	40	33	ug/kg	
99-09-2	3-Nitroaniline	ND	70	40	ug/kg	
100-01-6	4-Nitroaniline	ND	170	80	ug/kg	
91-20-3	Naphthalene	ND	70	33	ug/kg	
98-95-3	Nitrobenzene	ND	170	50	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	170	50	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	50	ug/kg	
85-01-8	Phenanthrene	ND	70	37	ug/kg	
129-00-0	Pyrene	ND	40	37	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	37	31	ug/kg	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	78% 10-138%
4165-62-2	Phenol-d5	75% 10-176%
118-79-6	2,4,6-Tribromophenol	69% 10-156%

## Method Blank Summary

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Job Number: D22299  
Account: CTLTCOD CTL/Thompson, Inc.  
Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3445-MB	1G101630.D	1	04/07/11	TMB	04/06/11	OP3445	E1G400

The QC reported here applies to the following samples:

Method: SW846 8270C

D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	53% 10-193%
321-60-8	2-Fluorobiphenyl	54% 20-138%
1718-51-0	Terphenyl-d14	62% 17-174%

## Blank Spike Summary

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Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3445-BS	1G101631.D	1	04/07/11	TMB	04/06/11	OP3445	E1G400

The QC reported here applies to the following samples:

Method: SW846 8270C

D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
65-85-0	Benzoic Acid	1670	477	29	10-130
95-57-8	2-Chlorophenol	1670	1360	82	29-130
59-50-7	4-Chloro-3-methyl phenol	1670	1320	79	38-133
120-83-2	2,4-Dichlorophenol	1670	1440	86	35-130
105-67-9	2,4-Dimethylphenol	1670	1090	65	31-130
51-28-5	2,4-Dinitrophenol	1670	1240	74	17-141
534-52-1	4,6-Dinitro-o-cresol	1670	1350	81	24-146
95-48-7	2-Methylphenol	1670	1330	80	35-130
106-44-5	4-Methylphenol	1670	1340	80	32-130
88-75-5	2-Nitrophenol	1670	1460	88	35-130
100-02-7	4-Nitrophenol	1670	1410	85	24-141
87-86-5	Pentachlorophenol	1670	1320	79	11-136
108-95-2	Phenol	1670	1330	80	32-130
95-95-4	2,4,5-Trichlorophenol	1670	1360	82	35-133
88-06-2	2,4,6-Trichlorophenol	1670	1440	86	35-131
83-32-9	Acenaphthene	1670	1350	81	40-136
208-96-8	Acenaphthylene	1670	1430	86	42-139
120-12-7	Anthracene	1670	1460	88	40-141
56-55-3	Benzo(a)anthracene	1670	1550	93	38-143
50-32-8	Benzo(a)pyrene	1670	1370	82	39-145
205-99-2	Benzo(b)fluoranthene	1670	1510	91	38-151
191-24-2	Benzo(g,h,i)perylene	1670	1290	77	35-136
207-08-9	Benzo(k)fluoranthene	1670	1480	89	38-147
101-55-3	4-Bromophenyl phenyl ether	1670	1390	83	35-150
85-68-7	Butyl benzyl phthalate	1670	1460	88	28-169
100-51-6	Benzyl Alcohol	1670	1060	64	39-136
91-58-7	2-Chloronaphthalene	1670	1370	82	40-134
106-47-8	4-Chloroaniline	1670	1310	79	42-130
218-01-9	Chrysene	1670	1330	80	39-137
111-91-1	bis(2-Chloroethoxy)methane	1670	1380	83	38-136
111-44-4	bis(2-Chloroethyl)ether	1670	1310	79	23-130
108-60-1	bis(2-Chloroisopropyl)ether	1670	1360	82	17-145
7005-72-3	4-Chlorophenyl phenyl ether	1670	1360	82	40-138
95-50-1	1,2-Dichlorobenzene	1670	1260	76	32-130
541-73-1	1,3-Dichlorobenzene	1670	1280	77	31-130
106-46-7	1,4-Dichlorobenzene	1670	1250	75	31-130



## Blank Spike Summary

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Job Number: D22299  
Account: CTLTCOD CTL/Thompson, Inc.  
Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3445-BS	1G101631.D	1	04/07/11	TMB	04/06/11	OP3445	E1G400

The QC reported here applies to the following samples:

Method: SW846 8270C

D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
121-14-2	2,4-Dinitrotoluene	1670	1400	84	40-154
606-20-2	2,6-Dinitrotoluene	1670	1400	84	42-153
91-94-1	3,3'-Dichlorobenzidine	1670	1360	82	34-152
53-70-3	Dibenzo(a,h)anthracene	1670	1410	85	35-139
132-64-9	Dibenzofuran	1670	1310	79	40-134
84-74-2	Di-n-butyl phthalate	1670	1470	88	36-150
117-84-0	Di-n-octyl phthalate	1670	1660	100	28-157
84-66-2	Diethyl phthalate	1670	1340	80	39-152
131-11-3	Dimethyl phthalate	1670	1360	82	42-142
117-81-7	bis(2-Ethylhexyl)phthalate	1670	1530	92	24-174
206-44-0	Fluoranthene	1670	1570	94	34-132
86-73-7	Fluorene	1670	1380	83	41-136
118-74-1	Hexachlorobenzene	1670	1290	77	38-145
87-68-3	Hexachlorobutadiene	1670	1330	80	34-136
77-47-4	Hexachlorocyclopentadiene	1670	433	26	14-130
67-72-1	Hexachloroethane	1670	1260	76	29-131
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1190	71	31-144
78-59-1	Isophorone	1670	1500	90	38-130
91-57-6	2-Methylnaphthalene	1670	1290	77	40-131
88-74-4	2-Nitroaniline	1670	1440	86	41-141
99-09-2	3-Nitroaniline	1670	1400	84	40-145
100-01-6	4-Nitroaniline	1670	1520	91	41-154
91-20-3	Naphthalene	1670	1320	79	36-130
98-95-3	Nitrobenzene	1670	1330	80	40-135
621-64-7	N-Nitroso-di-n-propylamine	1670	1400	84	32-137
86-30-6	N-Nitrosodiphenylamine	1670	1480	89	27-152
85-01-8	Phenanthrene	1670	1350	81	40-135
129-00-0	Pyrene	1670	1300	78	29-157
120-82-1	1,2,4-Trichlorobenzene	1670	1310	79	38-132

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	79%	10-138%
4165-62-2	Phenol-d5	76%	10-176%
118-79-6	2,4,6-Tribromophenol	78%	10-156%



## Blank Spike Summary

Page 3 of 3

Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3445-BS	1G101631.D	1	04/07/11	TMB	04/06/11	OP3445	E1G400

The QC reported here applies to the following samples:

Method: SW846 8270C

D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	59%	10-193%
321-60-8	2-Fluorobiphenyl	60%	20-138%
1718-51-0	Terphenyl-d14	59%	17-174%

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 3

Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3445-MS	1G101633.D	1	04/08/11	TMB	04/06/11	OP3445	E1G400
OP3445-MSD	1G101634.D	1	04/08/11	TMB	04/06/11	OP3445	E1G400
D22299-3	1G101632.D	1	04/07/11	TMB	04/06/11	OP3445	E1G400

The QC reported here applies to the following samples:

Method: SW846 8270C

D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

CAS No.	Compound	D22299-3 ug/kg	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND	1760	403	23	628	36	44* <sup>a</sup>	10-141/30
95-57-8	2-Chlorophenol	ND	1760	1360	77	1110	63	20	16-136/30
59-50-7	4-Chloro-3-methyl phenol	ND	1760	1360	77	1150	65	17	17-147/30
120-83-2	2,4-Dichlorophenol	ND	1760	1450	83	1180	67	21	13-144/30
105-67-9	2,4-Dimethylphenol	ND	1760	926	53	861	49	7	10-135/30
51-28-5	2,4-Dinitrophenol	ND	1760	1310	75	989	56	28	10-156/30
534-52-1	4,6-Dinitro-o-cresol	ND	1760	1380	79	1170	66	16	10-158/30
95-48-7	2-Methylphenol	ND	1760	1300	74	1090	62	18	10-144/30
106-44-5	4-Methylphenol	ND	1760	1290	73	1100	62	16	14-138/30
88-75-5	2-Nitrophenol	ND	1760	1460	83	1170	66	22	10-176/30
100-02-7	4-Nitrophenol	ND	1760	ND	0* <sup>b</sup>	1180	67	200* <sup>a</sup>	10-138/30
87-86-5	Pentachlorophenol	ND	1760	1380	79	1170	66	16	10-185/30
108-95-2	Phenol	ND	1760	1340	76	1100	62	20	20-129/30
95-95-4	2,4,5-Trichlorophenol	ND	1760	1400	80	1200	68	15	10-189/30
88-06-2	2,4,6-Trichlorophenol	ND	1760	1450	83	1270	72	13	10-152/30
83-32-9	Acenaphthene	ND	1760	1380	79	1180	67	16	20-151/30
208-96-8	Acenaphthylene	ND	1760	1450	83	1240	70	16	23-156/30
120-12-7	Anthracene	ND	1760	1510	86	1310	74	14	25-149/30
56-55-3	Benzo(a)anthracene	ND	1760	1610	92	1390	79	15	22-157/30
50-32-8	Benzo(a)pyrene	ND	1760	1410	80	1250	71	12	23-153/30
205-99-2	Benzo(b)fluoranthene	ND	1760	1540	88	1310	74	16	22-161/30
191-24-2	Benzo(g,h,i)perylene	ND	1760	1260	72	1050	60	18	20-158/30
207-08-9	Benzo(k)fluoranthene	ND	1760	1540	88	1430	81	7	17-161/30
101-55-3	4-Bromophenyl phenyl ether	ND	1760	1380	79	1280	73	8	10-176/30
85-68-7	Butyl benzyl phthalate	ND	1760	1510	86	1250	71	19	11-205/30
100-51-6	Benzyl Alcohol	ND	1760	1280	73	1100	62	15	13-168/30
91-58-7	2-Chloronaphthalene	ND	1760	1390	79	1200	68	15	21-149/30
106-47-8	4-Chloroaniline	ND	1760	1330	76	1110	63	18	10-143/30
218-01-9	Chrysene	ND	1760	1380	79	1190	67	15	16-159/30
111-91-1	bis(2-Chloroethoxy)methane	ND	1760	1380	79	1130	64	20	16-155/30
111-44-4	bis(2-Chloroethyl)ether	ND	1760	1290	73	1060	60	20	16-130/30
108-60-1	bis(2-Chloroisopropyl)ether	ND	1760	1330	76	1090	62	20	10-156/30
7005-72-3	4-Chlorophenyl phenyl ether	ND	1760	1390	79	1170	66	17	19-155/30
95-50-1	1,2-Dichlorobenzene	ND	1760	1250	71	1010	57	21	18-145/30
541-73-1	1,3-Dichlorobenzene	ND	1760	1270	72	1020	58	22	15-146/30
106-46-7	1,4-Dichlorobenzene	ND	1760	1250	71	1010	57	21	17-142/30

# Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 3

Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3445-MS	1G101633.D	1	04/08/11	TMB	04/06/11	OP3445	E1G400
OP3445-MSD	1G101634.D	1	04/08/11	TMB	04/06/11	OP3445	E1G400
D22299-3	1G101632.D	1	04/07/11	TMB	04/06/11	OP3445	E1G400

The QC reported here applies to the following samples:

Method: SW846 8270C

D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

CAS No.	Compound	D22299-3 ug/kg	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
121-14-2	2,4-Dinitrotoluene	ND	1760	1500	85	1190	67	23	10-218/30
606-20-2	2,6-Dinitrotoluene	ND	1760	1470	84	1240	70	17	10-208/30
91-94-1	3,3'-Dichlorobenzidine	ND	1760	1420	81	1250	71	13	10-158/30
53-70-3	Dibenzo(a,h)anthracene	ND	1760	1370	78	1140	65	18	21-154/30
132-64-9	Dibenzofuran	ND	1760	1360	77	1150	65	17	21-150/30
84-74-2	Di-n-butyl phthalate	ND	1760	1490	85	1290	73	14	22-161/30
117-84-0	Di-n-octyl phthalate	ND	1760	1700	97	1470	83	15	10-218/30
84-66-2	Diethyl phthalate	ND	1760	1380	79	1160	66	17	16-171/30
131-11-3	Dimethyl phthalate	ND	1760	1380	79	1210	69	13	10-184/30
117-81-7	bis(2-Ethylhexyl)phthalate	ND	1760	1570	89	1320	75	17	15-195/30
206-44-0	Fluoranthene	ND	1760	1650	94	1410	80	16	16-140/30
86-73-7	Fluorene	ND	1760	1440	82	1200	68	18	15-153/30
118-74-1	Hexachlorobenzene	ND	1760	1320	75	1190	67	10	22-155/30
87-68-3	Hexachlorobutadiene	ND	1760	1310	75	1060	60	21	19-143/30
77-47-4	Hexachlorocyclopentadiene	ND	1760	254	14	243	14	4	10-130/30
67-72-1	Hexachloroethane	ND	1760	1260	72	1010	57	22	10-180/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1760	1160	66	964	55	18	21-159/30
78-59-1	Isophorone	ND	1760	1520	87	1280	73	17	21-136/30
91-57-6	2-Methylnaphthalene	ND	1760	1300	74	1070	61	19	10-181/30
88-74-4	2-Nitroaniline	ND	1760	1500	85	1260	71	17	10-207/30
99-09-2	3-Nitroaniline	ND	1760	1520	87	1230	70	21	19-152/30
100-01-6	4-Nitroaniline	ND	1760	1680	96	1310	74	25	17-166/30
91-20-3	Naphthalene	ND	1760	1320	75	1070	61	21	10-176/30
98-95-3	Nitrobenzene	ND	1760	1330	76	1080	61	21	16-155/30
621-64-7	N-Nitroso-di-n-propylamine	ND	1760	1360	77	1170	66	15	10-199/30
86-30-6	N-Nitrosodiphenylamine	ND	1760	1480	84	1340	76	10	12-168/30
85-01-8	Phenanthrene	ND	1760	1410	80	1230	70	14	22-152/30
129-00-0	Pyrene	ND	1760	1400	80	1160	66	19	10-200/30
120-82-1	1,2,4-Trichlorobenzene	ND	1760	1300	74	1050	60	21	20-142/30

CAS No.	Surrogate Recoveries	MS	MSD	D22299-3	Limits
367-12-4	2-Fluorophenol	77%	61%	73%	10-138%
4165-62-2	Phenol-d5	71%	59%	69%	10-176%
118-79-6	2,4,6-Tribromophenol	76%	62%	61%	10-156%

## Matrix Spike/Matrix Spike Duplicate Summary

Page 3 of 3

Job Number: D22299

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3445-MS	1G101633.D	1	04/08/11	TMB	04/06/11	OP3445	E1G400
OP3445-MSD	1G101634.D	1	04/08/11	TMB	04/06/11	OP3445	E1G400
D22299-3	1G101632.D	1	04/07/11	TMB	04/06/11	OP3445	E1G400

The QC reported here applies to the following samples:

Method: SW846 8270C

D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

CAS No.	Surrogate Recoveries	MS	MSD	D22299-3	Limits
4165-60-0	Nitrobenzene-d5	56%	46%	48%	10-193%
321-60-8	2-Fluorobiphenyl	56%	49%	51%	20-138%
1718-51-0	Terphenyl-d14	57%	48%	58%	17-174%

(a) Variability of recovery may be due to sample matrix/homogeneity.

(b) Outside control limits due to matrix interference. Refer to Blank Spike.



## Metals Analysis

### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries



BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D22299  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4419  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: mg/kg

Prep Date: 04/07/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.59	.59		
Antimony	3.0	.31	.31		
Arsenic	2.5	.59	.59	0.0	<2.5
Barium	1.0	.11	.11	0.14	<1.0
Beryllium	1.0	.044	.1		
Boron	5.0	.48	.48		
Cadmium	1.0	.027	.27	0.020	<1.0
Calcium	40	.96	1.1		
Chromium	1.0	.018	.031	0.030	<1.0
Cobalt	0.50	.035	.035		
Copper	1.0	.085	.16	-0.060	<1.0
Iron	7.0	.34	2	3.2	<7.0
Lead	5.0	.16	.21	-0.11	<5.0
Lithium	0.20	.028	.031		
Magnesium	20	.58	1.4		
Manganese	0.50	.0053	.012	0.10	<0.50
Molybdenum	1.0	.045	.054		
Nickel	3.0	.043	.099		
Phosphorus	10	1.1	1.2		
Potassium	200	5.5	9.2		
Selenium	5.0	.38	.5	-0.14	<5.0
Silicon	5.0	.38	.51		
Silver	3.0	.018	.051	0.0	<3.0
Sodium	40	11	11		
Strontium	5.0		.017		
Thallium	1.0	.29	.34		
Tin	5.0	.55	1.3		
Titanium	1.0	.011	.1		
Uranium	5.0	.15	.2		
Vanadium	1.0	.016	.025		
Zinc	3.0	.028	.06	0.21	<3.0

Associated samples MP4419: D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D22299  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4419  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22299  
 Account: CTLTCOD - CTL/Thompson, Inc.  
 Project: 40th Street Outfall

QC Batch ID: MP4419  
 Matrix Type: SOLID

Methods: SW846 6010B  
 Units: mg/kg

Prep Date:

04/07/11

Metal	D22280-1 Original MS	Spikelot MPICFALL % Rec	QC Limits
Aluminum			
Antimony	anr		
Arsenic	5.4	104	108
Barium	59.6	252	215
Beryllium	anr		
Boron			
Cadmium	0.18	48.3	53.8
Calcium			
Chromium	1.2	50.6	53.8
Cobalt	anr		
Copper	5.0	56.7	53.8
Iron	4280	4890	538
Lead	12.7	110	108
Lithium			
Magnesium			
Manganese	14.9	61.9	53.8
Molybdenum			
Nickel	anr		
Phosphorus			
Potassium			
Selenium	0.0	96.5	108
Silicon			
Silver	0.064	20.4	21.5
Sodium			
Strontium			
Thallium	anr		
Tin	anr		
Titanium			
Uranium			
Vanadium	anr		
Zinc	18.1	62.4	53.8
		82.4	75-125

Associated samples MP4419: D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

Results &lt; IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22299  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4419  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: mg/kg

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits  
(anr) Analyte not requested

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22299  
 Account: CTLTCOD - CTL/Thompson, Inc.  
 Project: 40th Street Outfall

QC Batch ID: MP4419  
 Matrix Type: SOLID

Methods: SW846 6010B  
 Units: mg/kg

Prep Date: 04/07/11

Metal	D22280-1 Original MSD	Spikelot MPICFALL % Rec	MSD RPD	QC Limit
Aluminum				
Antimony	anr			
Arsenic	5.4	106	109	92.6
Barium	59.6	252	217	88.6
Beryllium	anr			
Boron				
Cadmium	0.18	48.8	54.3	89.5
Calcium				
Chromium	1.2	51.1	54.3	91.9
Cobalt	anr			
Copper	5.0	57.3	54.3	96.3
Iron	4280	5200	543	169.4(a)
Lead	12.7	111	109	90.5
Lithium				
Magnesium				
Manganese	14.9	62.0	54.3	86.7
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	0.0	97.0	109	89.3
Silicon				
Silver	0.064	20.6	21.7	94.5
Sodium				
Strontium				
Thallium	anr			
Tin	anr			
Titanium				
Uranium				
Vanadium	anr			
Zinc	18.1	63.8	54.3	84.1

Associated samples MP4419: D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22299  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4419  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: mg/kg

Prep Date:

Metal

- (N) Matrix Spike Rec. outside of QC limits  
(anr) Analyte not requested  
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

## SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D22299  
 Account: CTLTCOD - CTL/Thompson, Inc.  
 Project: 40th Street Outfall

QC Batch ID: MP4419  
 Matrix Type: SOLID

Methods: SW846 6010B  
 Units: mg/kg

Prep Date: 04/07/11

Metal	BSP Result	Spikelot MPICFALL	% Rec	QC Limits
Aluminum				
Antimony	anr			
Arsenic	99.2	100	99.2	80-120
Barium	193	200	96.5	80-120
Beryllium	anr			
Boron				
Cadmium	47.9	50	95.8	80-120
Calcium				
Chromium	49.2	50	98.4	80-120
Cobalt	anr			
Copper	48.7	50	97.4	80-120
Iron	477	500	95.4	80-120
Lead	97.3	100	97.3	80-120
Lithium				
Magnesium				
Manganese	48.2	50	96.4	80-120
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	96.2	100	96.2	80-120
Silicon				
Silver	19.8	20	99.0	80-120
Sodium				
Strontium				
Thallium	anr			
Tin	anr			
Titanium				
Uranium				
Vanadium	anr			
Zinc	46.1	50	92.2	80-120

Associated samples MP4419: D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D22299  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4419  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

## SERIAL DILUTION RESULTS SUMMARY

Login Number: D22299  
 Account: CTLTCOD - CTL/Thompson, Inc.  
 Project: 40th Street Outfall

QC Batch ID: MP4419  
 Matrix Type: SOLID

Methods: SW846 6010B  
 Units: ug/l

Prep Date: 04/07/11

Metal	D22280-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	anr			
Arsenic	50.8	92.5	82.1 (a)	0-10
Barium	561	572	2.1	0-10
Beryllium	anr			
Boron				
Cadmium	1.70	0.00	100.0(a)	0-10
Calcium				
Chromium	11.3	9.50	15.9*(b)	0-10
Cobalt	anr			
Copper	47.2	31.5	33.3*(b)	0-10
Iron	40200	42000	4.3	0-10
Lead	119	105	12.0*(b)	0-10
Lithium				
Magnesium				
Manganese	140	147	4.3	0-10
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.600	3.00	400.0(a)	0-10
Sodium				
Strontium				
Thallium	anr			
Tin	anr			
Titanium				
Uranium				
Vanadium	anr			
Zinc	170	206	20.6*(b)	0-10

Associated samples MP4419: D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: D22299  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4419  
Matrix Type: SOLID

Methods: SW846 6010B  
Units: ug/l

Prep Date:

Metal

- (anr) Analyte not requested  
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).  
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D22299  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4441  
Matrix Type: SOLID

Methods: SW846 7471A  
Units: mg/kg

Prep Date: 04/12/11

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.10	.0011	.013	-0.0053	<0.10

Associated samples MP4441: D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22299  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4441  
Matrix Type: SOLID

Methods: SW846 7471A  
Units: mg/kg

Prep Date:

04/12/11

Metal	D22299-6 Original MS	Spikelot HGWSR1	QC % Rec	QC Limits
Mercury	0.37	0.62	0.485	51.5N(a) 85-115

Associated samples MP4441: D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22299  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4441  
Matrix Type: SOLID

Methods: SW846 7471A  
Units: mg/kg

Prep Date:

04/12/11

Metal	D22299-6 Original MSD	Spikelot HGWSR1	MSD % Rec	QC RPD	QC Limit
Mercury	0.37	0.67	0.485	61.8N(a)	20

Associated samples MP4441: D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D22299  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4441  
Matrix Type: SOLID

Methods: SW846 7471A  
Units: mg/kg

Prep Date: 04/12/11

Metal	BSP Result	Spikelot HGWSR1	QC % Rec	QC Limits
Mercury	0.43	0.4	107.5	80-120

Associated samples MP4441: D22299-1, D22299-2, D22299-3, D22299-4, D22299-5, D22299-6

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested



04/29/11

## Technical Report for

CTL/Thompson, Inc.

40th Street Outfall

44666-205

Accutest Job Number: D22377

Sampling Date: 04/05/11

Report to:

CTL/Thompson, Inc.  
1971 West 12th Avenue  
Denver, CO 80204  
ntalocco@ctlthompson.com

ATTN: Nick Talocco

Total number of pages in report: 109



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

A handwritten signature in black ink.

John Hamilton  
Laboratory Director

Client Service contact: Amanda Kissell 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.  
Test results relate only to samples analyzed.

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## Sample Summary

CTL/Thompson, Inc.

Job No: D22377

40th Street Outfall

Project No: 44666-205

Sample Number	Collected Date	Time By	Matrix Received	Client Code Type	Sample ID
D22377-1	04/05/11	12:44 TT	04/05/11 AQ	Ground Water	MW-1
D22377-1F	04/05/11	12:44 TT	04/05/11 AQ	Groundwater Filtered	MW-1
D22377-1R	04/05/11	12:44 TT	04/05/11 AQ	Ground Water	MW-1
D22377-2	04/05/11	13:30 TT	04/05/11 AQ	Ground Water	MW-2
D22377-2F	04/05/11	13:30 TT	04/05/11 AQ	Groundwater Filtered	MW-2
D22377-2R	04/05/11	13:30 TT	04/05/11 AQ	Ground Water	MW-2
D22377-3	04/05/11	14:00 TT	04/05/11 AQ	Ground Water	MW-3
D22377-3F	04/05/11	14:00 TT	04/05/11 AQ	Groundwater Filtered	MW-3
D22377-3R	04/05/11	14:00 TT	04/05/11 AQ	Ground Water	MW-3
D22377-4	04/05/11	14:30 TT	04/05/11 AQ	Ground Water	MW-4
D22377-4F	04/05/11	14:30 TT	04/05/11 AQ	Groundwater Filtered	MW-4
D22377-4R	04/05/11	14:30 TT	04/05/11 AQ	Ground Water	MW-4
D22377-5	04/05/11	11:45 TT	04/05/11 AQ	Ground Water	MW-5

## Sample Summary

(continued)

CTL/Thompson, Inc.

Job No: D22377

40th Street Outfall  
Project No: 44666-205

Sample Number	Collected Date	Time By	Matrix Received	Code Type	Client Sample ID
D22377-5F	04/05/11	11:45 TT	04/05/11	AQ	Groundwater Filtered MW-5
D22377-5R	04/05/11	11:45 TT	04/05/11	AQ	Ground Water MW-5
D22377-6	04/05/11	15:15 TT	04/05/11	AQ	Ground Water MW-6
D22377-6F	04/05/11	15:15 TT	04/05/11	AQ	Groundwater Filtered MW-6
D22377-6R	04/05/11	15:15 TT	04/05/11	AQ	Ground Water MW-6



## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** CTL/Thompson, Inc.

**Job No** D22377

**Site:** 40th Street Outfall

**Report Dat** 4/29/2011 10:41:23 AM

On 04/05/2011, six (6) samples, 0 Trip Blanks, and 0 Field Blanks were received at Accutest Mountain States (AMS) at a temperature of 3.0°C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D22377 was assigned to the project. The lab sample IDs, client sample IDs, and dates of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### Volatiles by GCMS By Method SW846 8260B

<b>Matrix</b> AQ	<b>Batch ID:</b> V5V874
------------------	-------------------------

- ※ All samples were analyzed within the recommended method holding time.
- ※ Samples D22548-1MS and D22548-1MSD were used as the QC samples indicated.
- ※ The method blank for this batch meets method specific criteria.
- ※ The matrix spike and matrix spike duplicate (MS) recoveries of 2-Chloroethyl vinyl ether are outside control limits. Recovery of 2-Chloroethyl vinyl ether is affected by sample preservation.

### Extractables by GCMS By Method SW846 8270C

<b>Matrix</b> AQ	<b>Batch ID:</b> OP3459
------------------	-------------------------

- ※ All samples were extracted and analyzed within the recommended method holding time.
- ※ The method blank for this batch meets method specific criteria.
- ※ Samples D22147-14MS and D22147-14MSD were used as the QC samples indicated.
- ※ The blank spike (BS) recovery(s) of Hexachlorocyclopentadiene and Indeno(1,2,3-cd)pyrene are outside control limits. Since the bias for Indeno(1,2,3-cd)pyrene is high and the sample is non-detect for this analyte, no further action is required. The matrix spike and (MS/MSD) recovery of Hexachlorocyclopentadiene are within control limits.
- ※ The matrix spike and matrix spike duplicate (MS/MSD) recoveries of 2,4-Dimethylphenol are outside control limits. Outside control limits due to matrix interference. Refer to the lab control or spike blank for recovery information.
- ※ Samples D22377-1, D22377-2, D22377-3, D22377-4, D22377-6, D22377-5, and OP3459-MB have surrogates outside control limits. Probable cause due to matrix interference. Confirmed by reanalysis.
- ※ OP3459-MB: Confirmation run.

<b>Matrix</b> AQ	<b>Batch ID:</b> OP3491
------------------	-------------------------

- ※ The data for SW846 8270C meets quality control requirements.
- ※ The following samples were extracted outside of holding time for method SW846 8270C: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, and D22377-6.
- ※ Samples D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6, and OP3459-MB have surrogates outside control limits. Probable cause due to matrix interference.
- ※ Samples D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, and D22377-6: Confirmation run.

### Metals By Method EPA 200.7

<b>Matrix</b> AQ	<b>Batch ID:</b> MP4413
------------------	-------------------------

- ※ All samples were digested and analyzed within the recommended method holding time.
- ※ The method blank for this batch meets method specific criteria.
- ※ Samples D22431-1MS and D22431-1MSD were used as the QC samples for the metals analysis.

## Metals By Method EPA 200.8

Matrix AQ	Batch ID: MP4409
-----------	------------------

- ※ All samples were digested and analyzed within the recommended method holding time.
- ※ The method blank for this batch meets method specific criteria.
- ※ Samples D22359-2FMS and D22359-2FMSD were used as the QC samples for the metals analysis.

Matrix AQ	Batch ID: MP4493
-----------	------------------

- ※ All samples were digested and analyzed within the recommended method holding time.
- ※ The method blank for this batch meets method specific criteria.
- ※ Samples D22646-2FMS and D22646-2FMSD were used as the QC samples for the metals analysis.

## Metals By Method EPA 245.1

Matrix AQ	Batch ID: MP4411
-----------	------------------

- ※ All samples were digested and analyzed within the recommended method holding time.
- ※ The method blank for this batch meets method specific criteria.
- ※ Samples D22377-6MS and D22377-6MSD were used as the QC samples for the Mercury analysis.

Matrix AQ	Batch ID: MP4447
-----------	------------------

- ※ All samples were digested and analyzed within the recommended method holding time.
- ※ The method blank for this batch meets method specific criteria.
- ※ Samples D22494-1MS and D22494-1MSD were used as the QC samples for the Mercury analysis.

## Wet Chemistry By Method SM20 3500CR B

Matrix AQ	Batch ID: GN9005
-----------	------------------

- ※ All samples were analyzed within the recommended method holding time.
- ※ The method blank for this batch meets method specific criteria.
- ※ Samples D22378-1DUP, D22378-1MS, and D22378-1MSD were used as the QC samples for the Hexavalent Chromium analysis.
- ※ The matrix spike and matrix spike duplicate (MS/MSD) recoveries of Hexavalent Chromium are outside control limits. The spike recovery indicates possible matrix interference. Refer to the lab control or spike blank for recovery information. This is a common occurrence for this method since interferences in the sample can cause the Hexavalent Chromium to be reduced to other forms of Chromium.
- ※ Sample D22377-5 for Hexavalent Chromium: Sample dilution was required due to matrix interference.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.



## Sample Results

### Report of Analysis

---

**Report of Analysis**

Page 1 of 2

**Client Sample ID:** MW-1  
**Lab Sample ID:** D22377-1  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260B  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	5V14881.D	1	04/12/11	DC	n/a	n/a	V5V874
Run #2							

**Purge Volume**  
Run #1 5.0 ml  
Run #2

**VOA HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
67-64-1	Acetone	ND	10	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	1.0	ug/l	
75-25-2	Bromoform	ND	4.0	1.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	1.0	ug/l	
75-00-3	Chloroethane	ND	4.0	1.5	ug/l	
67-66-3	Chloroform	4.1	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	4.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	2.0	ug/l	
74-83-9	Methyl bromide	ND	4.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	4.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	4.3	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	4.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 2 of 2

<b>Client Sample ID:</b>	MW-1	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-1	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

**VOA HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	1.1	2.0	0.50	ug/l	J
108-88-3	Toluene	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	4.0	0.60	ug/l	
1330-20-7	Xylene (total)	0.99	2.0	0.60	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	101%		63-130%
2037-26-5	Toluene-D8	88%		68-130%
460-00-4	4-Bromofluorobenzene	90%		61-130%

ND = Not detected      MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 1 of 3

<b>Client Sample ID:</b>	MW-1	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-1	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270C SW846 3520C		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	1G101696.D	2	04/12/11	TMB	04/10/11	OP3459	E1G402
Run #2 <sup>a</sup>	1G101829.D	2	04/19/11	TMB	04/18/11	OP3491	E1G406

	<b>Initial Volume</b>	<b>Final Volume</b>
Run #1	1050 ml	1.0 ml
Run #2	830 ml	1.0 ml

**ABN HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
65-85-0	Benzoic Acid	ND	9.5	7.8	ug/l	
95-57-8	2-Chlorophenol	ND	3.8	2.3	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	9.5	4.8	ug/l	
120-83-2	2,4-Dichlorophenol	ND	3.8	3.2	ug/l	
105-67-9	2,4-Dimethylphenol	ND	1.9	1.9	ug/l	
51-28-5	2,4-Dinitrophenol	ND	9.5	2.3	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	3.8	1.9	ug/l	
95-48-7	2-Methylphenol	ND	9.5	4.8	ug/l	
106-44-5	4-Methylphenol	ND	3.8	3.4	ug/l	
88-75-5	2-Nitrophenol	ND	9.5	3.8	ug/l	
100-02-7	4-Nitrophenol	ND	3.8	2.1	ug/l	
87-86-5	Pentachlorophenol	ND	9.5	2.5	ug/l	
108-95-2	Phenol	ND	9.5	4.2	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	3.8	2.5	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	3.8	3.2	ug/l	
83-32-9	Acenaphthene	ND	1.9	1.9	ug/l	
208-96-8	Acenaphthylene	ND	1.9	1.9	ug/l	
120-12-7	Anthracene	ND	3.8	2.5	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.9	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.9	1.7	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	3.8	2.7	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	3.8	3.8	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	3.8	1.9	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	9.5	2.9	ug/l	
85-68-7	Butyl benzyl phthalate	ND	3.8	2.1	ug/l	
100-51-6	Benzyl Alcohol	ND	9.5	3.8	ug/l	
91-58-7	2-Chloronaphthalene	ND	9.5	3.4	ug/l	
106-47-8	4-Chloroaniline	ND	1.9	1.9	ug/l	
218-01-9	Chrysene	ND	1.9	1.9	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	9.5	4.2	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	1.9	1.9	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	9.5	4.8	ug/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

<b>Client Sample ID:</b>	MW-1	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-1	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270C SW846 3520C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	9.5	4.8	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.9	1.9	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.9	1.9	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.9	1.9	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.9	1.9	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	9.5	3.4	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	1.9	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	3.8	3.0	ug/l	
132-64-9	Dibenzofuran	ND	9.5	3.4	ug/l	
84-74-2	Di-n-butyl phthalate	ND	3.8	2.5	ug/l	
117-84-0	Di-n-octyl phthalate	ND	9.5	3.4	ug/l	
84-66-2	Diethyl phthalate	ND	9.5	3.8	ug/l	
131-11-3	Dimethyl phthalate	ND	9.5	3.8	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	3.8	2.9	ug/l	
206-44-0	Fluoranthene	ND	3.8	2.3	ug/l	
86-73-7	Fluorene	ND	3.8	2.7	ug/l	
118-74-1	Hexachlorobenzene	ND	9.5	3.8	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.9	1.9	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	9.5	3.4	ug/l	
67-72-1	Hexachloroethane	ND	1.9	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	3.8	3.0	ug/l	
78-59-1	Isophorone	ND	1.9	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	9.5	3.4	ug/l	
88-74-4	2-Nitroaniline	ND	9.5	4.2	ug/l	
99-09-2	3-Nitroaniline	ND	9.5	3.4	ug/l	
100-01-6	4-Nitroaniline	ND	9.5	2.9	ug/l	
91-20-3	Naphthalene	ND	1.9	1.9	ug/l	
98-95-3	Nitrobenzene	ND	1.9	1.9	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	3.8	3.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	1.9	1.9	ug/l	
85-01-8	Phenanthrene	ND	9.5	3.8	ug/l	
129-00-0	Pyrene	ND	1.9	1.9	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	9.5	3.4	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	29% <sup>b</sup>	34%	43-130%
4165-62-2	Phenol-d5	25% <sup>b</sup>	30%	47-130%
118-79-6	2,4,6-Tribromophenol	33%	37%	32-138%
4165-60-0	Nitrobenzene-d5	39% <sup>b</sup>	43%	45-130%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

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<b>Client Sample ID:</b> MW-1	<b>Date Sampled:</b> 04/05/11
<b>Lab Sample ID:</b> D22377-1	<b>Date Received:</b> 04/05/11
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3520C	
<b>Project:</b> 40th Street Outfall	

**ABN HSL List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	35% <sup>b</sup>	39%	45-130%
1718-51-0	Terphenyl-d14	48%	39%	47-136%

(a) Confirmation run.

(b) Outside control limits due to possible matrix interference. Confirmed by re-extraction and reanalysis outside of holdtime.

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 1 of 1

**Client Sample ID:** MW-1  
**Lab Sample ID:** D22377-1  
**Matrix:** AQ - Ground Water  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

**Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	18.2	1.6	0.62	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>4</sup>
Barium	1000	4.0	0.36	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Cadmium	15.7	0.20	0.11	ug/l	2	04/18/11	04/20/11	JM	EPA 200.8 <sup>5</sup>
Chromium	12.8	4.0	0.31	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>4</sup>
Copper	183	4.0	0.71	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Iron	5950	80	20	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>4</sup>
Lead	26.8	1.0	0.078	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Manganese	3080	2.0	0.25	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>4</sup>
Mercury	0.014 U	0.10	0.014	ug/l	1	04/07/11	04/07/11	JB	EPA 245.1 <sup>1</sup>
Selenium	5.8	0.80	0.19	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Silver	0.13 J	0.20	0.0034	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Zinc	388	20	1.3	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>

- (1) Instrument QC Batch: MA1438
- (2) Instrument QC Batch: MA1458
- (3) Instrument QC Batch: MA1460
- (4) Instrument QC Batch: MA1461
- (5) Instrument QC Batch: MA1472
- (6) Prep QC Batch: MP4409
- (7) Prep QC Batch: MP4411
- (8) Prep QC Batch: MP4493

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
J = Indicates a result > = MDL but < RL

**Report of Analysis**

Page 1 of 1

**Client Sample ID:** MW-1  
**Lab Sample ID:** D22377-1  
**Matrix:** AQ - Ground Water  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	04/06/11 10:15	CB	SM20 3500CR B

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RL = Reporting Limit

**Report of Analysis**

Page 1 of 1

<b>Client Sample ID:</b>	MW-1	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-1F	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Groundwater Filtered	<b>Percent Solids:</b>	n/a
<b>Project:</b>	40th Street Outfall		

**Dissolved Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	5.9 U	25	5.9	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Barium	54.5	10	1.1	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Cadmium	0.62 U	10	0.62	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Chromium	1.0 J	10	0.42	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Iron	17.9 J	70	5.5	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Lead	1.8 U	50	1.8	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Manganese	26.5	5.0	0.28	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Mercury	0.022 J	0.10	0.014	ug/l	1	04/07/11	04/07/11 JB	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>3</sup>
Selenium	5.7 U	50	5.7	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Silver	0.56 U	30	0.56	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Zinc	1.4 J	30	1.4	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>

(1) Instrument QC Batch: MA1438

(2) Instrument QC Batch: MA1444

(3) Prep QC Batch: MP4411

(4) Prep QC Batch: MP4413

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL

**Report of Analysis**

Page 1 of 2

**Client Sample ID:** MW-2  
**Lab Sample ID:** D22377-2  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260B  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	5V14882.D	1	04/12/11	DC	n/a	n/a	V5V874
Run #2							

**Purge Volume**  
Run #1 5.0 ml  
Run #2

**VOA HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
67-64-1	Acetone	ND	10	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	1.0	ug/l	
75-25-2	Bromoform	ND	4.0	1.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	1.0	ug/l	
75-00-3	Chloroethane	ND	4.0	1.5	ug/l	
67-66-3	Chloroform	1.1	2.0	0.50	ug/l	J
110-75-8	2-Chloroethyl vinyl ether	ND	4.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	2.0	ug/l	
74-83-9	Methyl bromide	ND	4.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	4.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	4.3	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	4.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

<b>Client Sample ID:</b>	MW-2	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-2	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

**VOA HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	4.0	0.60	ug/l	
1330-20-7	Xylene (total)	0.61	2.0	0.60	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		63-130%
2037-26-5	Toluene-D8	84%		68-130%
460-00-4	4-Bromofluorobenzene	88%		61-130%

ND = Not detected      MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 1 of 3

<b>Client Sample ID:</b>	MW-2	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-2	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270C SW846 3520C		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	1G101697.D	1	04/12/11	TMB	04/10/11	OP3459	E1G402
Run #2 <sup>a</sup>	1G101830.D	1	04/19/11	TMB	04/18/11	OP3491	E1G406

	<b>Initial Volume</b>	<b>Final Volume</b>
Run #1	1060 ml	1.0 ml
Run #2	830 ml	1.0 ml

**ABN HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
65-85-0	Benzoic Acid	ND	4.7	3.9	ug/l	
95-57-8	2-Chlorophenol	ND	1.9	1.1	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.7	2.4	ug/l	
120-83-2	2,4-Dichlorophenol	ND	1.9	1.6	ug/l	
105-67-9	2,4-Dimethylphenol	ND	0.95	0.95	ug/l	
51-28-5	2,4-Dinitrophenol	ND	4.7	1.1	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	1.9	0.95	ug/l	
95-48-7	2-Methylphenol	ND	4.7	2.4	ug/l	
106-44-5	4-Methylphenol	ND	1.9	1.7	ug/l	
88-75-5	2-Nitrophenol	ND	4.7	1.9	ug/l	
100-02-7	4-Nitrophenol	ND	1.9	1.0	ug/l	
87-86-5	Pentachlorophenol	ND	4.7	1.2	ug/l	
108-95-2	Phenol	ND	4.7	2.1	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	1.9	1.2	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	1.9	1.6	ug/l	
83-32-9	Acenaphthene	ND	0.95	0.95	ug/l	
208-96-8	Acenaphthylene	ND	0.95	0.95	ug/l	
120-12-7	Anthracene	ND	1.9	1.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.95	0.95	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.95	0.85	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.9	1.3	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.9	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.9	0.95	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.7	1.4	ug/l	
85-68-7	Butyl benzyl phthalate	ND	1.9	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	4.7	1.9	ug/l	
91-58-7	2-Chloronaphthalene	ND	4.7	1.7	ug/l	
106-47-8	4-Chloroaniline	ND	0.95	0.95	ug/l	
218-01-9	Chrysene	ND	0.95	0.95	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.7	2.1	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	0.95	0.95	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.7	2.4	ug/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

<b>Client Sample ID:</b>	MW-2	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-2	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270C SW846 3520C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.7	2.4	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.95	0.95	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.95	0.95	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.95	0.95	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.95	0.95	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.7	1.7	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	0.95	0.95	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.9	1.5	ug/l	
132-64-9	Dibenzofuran	ND	4.7	1.7	ug/l	
84-74-2	Di-n-butyl phthalate	ND	1.9	1.2	ug/l	
117-84-0	Di-n-octyl phthalate	ND	4.7	1.7	ug/l	
84-66-2	Diethyl phthalate	ND	4.7	1.9	ug/l	
131-11-3	Dimethyl phthalate	ND	4.7	1.9	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	1.9	1.4	ug/l	
206-44-0	Fluoranthene	ND	1.9	1.1	ug/l	
86-73-7	Fluorene	ND	1.9	1.3	ug/l	
118-74-1	Hexachlorobenzene	ND	4.7	1.9	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.95	0.95	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.7	1.7	ug/l	
67-72-1	Hexachloroethane	ND	0.95	0.95	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.9	1.5	ug/l	
78-59-1	Isophorone	ND	0.95	0.95	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.7	1.7	ug/l	
88-74-4	2-Nitroaniline	ND	4.7	2.1	ug/l	
99-09-2	3-Nitroaniline	ND	4.7	1.7	ug/l	
100-01-6	4-Nitroaniline	ND	4.7	1.4	ug/l	
91-20-3	Naphthalene	ND	0.95	0.95	ug/l	
98-95-3	Nitrobenzene	ND	0.95	0.95	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	1.9	1.5	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	0.95	0.95	ug/l	
85-01-8	Phenanthrene	ND	4.7	1.9	ug/l	
129-00-0	Pyrene	ND	0.95	0.95	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	4.7	1.7	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	16% <sup>b</sup>	18%	43-130%
4165-62-2	Phenol-d5	15% <sup>b</sup>	14%	47-130%
118-79-6	2,4,6-Tribromophenol	30% <sup>b</sup>	32%	32-138%
4165-60-0	Nitrobenzene-d5	36% <sup>b</sup>	50%	45-130%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

<b>Client Sample ID:</b> MW-2	<b>Date Sampled:</b> 04/05/11
<b>Lab Sample ID:</b> D22377-2	<b>Date Received:</b> 04/05/11
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3520C	
<b>Project:</b> 40th Street Outfall	

**ABN HSL List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	38% <sup>b</sup>	51%	45-130%
1718-51-0	Terphenyl-d14	48%	50%	47-136%

(a) Confirmation run.

(b) Outside control limits due to possible matrix interference. Confirmed by re-extraction and reanalysis outside of holdtime.

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

**Client Sample ID:** MW-2  
**Lab Sample ID:** D22377-2  
**Matrix:** AQ - Ground Water  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

**Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	22.1	1.6	0.62	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Barium	822	4.0	0.36	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Cadmium	12.4	0.20	0.11	ug/l	2	04/18/11	04/20/11	JM	EPA 200.8 <sup>5</sup>
Chromium	9.5 J	20	1.6	ug/l	10	04/07/11	04/18/11	JM	EPA 200.8 <sup>4</sup>
Copper	232	4.0	0.71	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Iron	7440	400	98	ug/l	10	04/07/11	04/18/11	JM	EPA 200.8 <sup>4</sup>
Lead	2.2	1.0	0.078	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Manganese	3190	10	1.2	ug/l	10	04/07/11	04/18/11	JM	EPA 200.8 <sup>4</sup>
Mercury	0.033 J	0.10	0.014	ug/l	1	04/07/11	04/07/11	JB	EPA 245.1 <sup>1</sup>
Selenium	6.3	0.80	0.19	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Silver	0.11 J	0.20	0.0034	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Zinc	337	20	1.3	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>

- (1) Instrument QC Batch: MA1438
- (2) Instrument QC Batch: MA1458
- (3) Instrument QC Batch: MA1461
- (4) Instrument QC Batch: MA1464
- (5) Instrument QC Batch: MA1472
- (6) Prep QC Batch: MP4409
- (7) Prep QC Batch: MP4411
- (8) Prep QC Batch: MP4493

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
J = Indicates a result > = MDL but < RL

**Report of Analysis**

Page 1 of 1

**Client Sample ID:** MW-2  
**Lab Sample ID:** D22377-2  
**Matrix:** AQ - Ground Water  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	04/06/11 10:15	CB	SM20 3500CR B

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RL = Reporting Limit

**Report of Analysis**

Page 1 of 1

**Client Sample ID:** MW-2  
**Lab Sample ID:** D22377-2F  
**Matrix:** AQ - Groundwater Filtered  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

**Dissolved Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	7.2 J	25	5.9	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Barium	113	10	1.1	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Cadmium	0.62 U	10	0.62	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Chromium	1.1 J	10	0.42	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Iron	27.3 J	70	5.5	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Lead	1.8 U	50	1.8	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Manganese	2.2 J	5.0	0.28	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Mercury	0.041 J	0.10	0.014	ug/l	1	04/07/11	04/07/11 JB	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>3</sup>
Selenium	5.9 J	50	5.7	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Silver	0.56 U	30	0.56	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Zinc	1.4 U	30	1.4	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>

(1) Instrument QC Batch: MA1438

(2) Instrument QC Batch: MA1444

(3) Prep QC Batch: MP4411

(4) Prep QC Batch: MP4413

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL

**Report of Analysis**

Page 1 of 2

**Client Sample ID:** MW-3  
**Lab Sample ID:** D22377-3  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260B  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	5V14883.D	1	04/12/11	DC	n/a	n/a	V5V874
Run #2							

**Purge Volume**  
Run #1 5.0 ml  
Run #2

**VOA HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
67-64-1	Acetone	ND	10	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	1.0	ug/l	
75-25-2	Bromoform	ND	4.0	1.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	1.0	ug/l	
75-00-3	Chloroethane	ND	4.0	1.5	ug/l	
67-66-3	Chloroform	2.6	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	4.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	2.0	ug/l	
74-83-9	Methyl bromide	ND	4.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	4.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	4.3	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	4.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

<b>Client Sample ID:</b>	MW-3	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-3	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

**VOA HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	4.0	0.60	ug/l	
1330-20-7	Xylene (total)	0.73	2.0	0.60	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		63-130%
2037-26-5	Toluene-D8	85%		68-130%
460-00-4	4-Bromofluorobenzene	85%		61-130%

ND = Not detected      MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 1 of 3

**Client Sample ID:** MW-3  
**Lab Sample ID:** D22377-3  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8270C SW846 3520C  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	1G101698.D	1	04/12/11	TMB	04/10/11	OP3459	E1G402
Run #2 <sup>a</sup>	1G101831.D	1	04/19/11	TMB	04/18/11	OP3491	E1G406

	<b>Initial Volume</b>	<b>Final Volume</b>
Run #1	1060 ml	1.0 ml
Run #2	870 ml	1.0 ml

**ABN HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
65-85-0	Benzoic Acid	ND	4.7	3.9	ug/l	
95-57-8	2-Chlorophenol	ND	1.9	1.1	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.7	2.4	ug/l	
120-83-2	2,4-Dichlorophenol	ND	1.9	1.6	ug/l	
105-67-9	2,4-Dimethylphenol	ND	0.95	0.95	ug/l	
51-28-5	2,4-Dinitrophenol	ND	4.7	1.1	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	1.9	0.95	ug/l	
95-48-7	2-Methylphenol	ND	4.7	2.4	ug/l	
106-44-5	4-Methylphenol	ND	1.9	1.7	ug/l	
88-75-5	2-Nitrophenol	ND	4.7	1.9	ug/l	
100-02-7	4-Nitrophenol	ND	1.9	1.0	ug/l	
87-86-5	Pentachlorophenol	ND	4.7	1.2	ug/l	
108-95-2	Phenol	ND	4.7	2.1	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	1.9	1.2	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	1.9	1.6	ug/l	
83-32-9	Acenaphthene	ND	0.95	0.95	ug/l	
208-96-8	Acenaphthylene	ND	0.95	0.95	ug/l	
120-12-7	Anthracene	ND	1.9	1.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.95	0.95	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.95	0.85	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.9	1.3	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.9	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.9	0.95	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.7	1.4	ug/l	
85-68-7	Butyl benzyl phthalate	ND	1.9	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	4.7	1.9	ug/l	
91-58-7	2-Chloronaphthalene	ND	4.7	1.7	ug/l	
106-47-8	4-Chloroaniline	ND	0.95	0.95	ug/l	
218-01-9	Chrysene	ND	0.95	0.95	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.7	2.1	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	0.95	0.95	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.7	2.4	ug/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

<b>Client Sample ID:</b>	MW-3	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-3	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270C SW846 3520C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.7	2.4	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.95	0.95	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.95	0.95	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.95	0.95	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.95	0.95	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.7	1.7	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	0.95	0.95	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.9	1.5	ug/l	
132-64-9	Dibenzofuran	ND	4.7	1.7	ug/l	
84-74-2	Di-n-butyl phthalate	ND	1.9	1.2	ug/l	
117-84-0	Di-n-octyl phthalate	ND	4.7	1.7	ug/l	
84-66-2	Diethyl phthalate	ND	4.7	1.9	ug/l	
131-11-3	Dimethyl phthalate	ND	4.7	1.9	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	1.9	1.4	ug/l	
206-44-0	Fluoranthene	ND	1.9	1.1	ug/l	
86-73-7	Fluorene	ND	1.9	1.3	ug/l	
118-74-1	Hexachlorobenzene	ND	4.7	1.9	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.95	0.95	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.7	1.7	ug/l	
67-72-1	Hexachloroethane	ND	0.95	0.95	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.9	1.5	ug/l	
78-59-1	Isophorone	ND	0.95	0.95	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.7	1.7	ug/l	
88-74-4	2-Nitroaniline	ND	4.7	2.1	ug/l	
99-09-2	3-Nitroaniline	ND	4.7	1.7	ug/l	
100-01-6	4-Nitroaniline	ND	4.7	1.4	ug/l	
91-20-3	Naphthalene	ND	0.95	0.95	ug/l	
98-95-3	Nitrobenzene	ND	0.95	0.95	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	1.9	1.5	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	0.95	0.95	ug/l	
85-01-8	Phenanthrene	ND	4.7	1.9	ug/l	
129-00-0	Pyrene	ND	0.95	0.95	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	4.7	1.7	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	20% <sup>b</sup>	28%	43-130%
4165-62-2	Phenol-d5	17% <sup>b</sup>	23%	47-130%
118-79-6	2,4,6-Tribromophenol	30% <sup>b</sup>	32%	32-138%
4165-60-0	Nitrobenzene-d5	35% <sup>b</sup>	47%	45-130%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 3 of 3

<b>Client Sample ID:</b> MW-3	<b>Date Sampled:</b> 04/05/11
<b>Lab Sample ID:</b> D22377-3	<b>Date Received:</b> 04/05/11
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3520C	
<b>Project:</b> 40th Street Outfall	

**ABN HSL List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	40% <sup>b</sup>	44%	45-130%
1718-51-0	Terphenyl-d14	57%	45%	47-136%

(a) Confirmation run.

(b) Outside control limits due to possible matrix interference. Confirmed by re-extraction and reanalysis outside of holdtime.

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 1 of 1

**Client Sample ID:** MW-3  
**Lab Sample ID:** D22377-3  
**Matrix:** AQ - Ground Water  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

**Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	32.7	1.6	0.62	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Barium	547	4.0	0.36	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Cadmium	3180	0.20	0.11	ug/l	2	04/18/11	04/20/11	JM	EPA 200.8 <sup>5</sup>
Chromium	5.7 J	10	0.79	ug/l	5	04/07/11	04/18/11	JM	EPA 200.8 <sup>4</sup>
Copper	96.5	4.0	0.71	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Iron	2670	200	49	ug/l	5	04/07/11	04/18/11	JM	EPA 200.8 <sup>4</sup>
Lead	17.4	1.0	0.078	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Manganese	1250	5.0	0.62	ug/l	5	04/07/11	04/18/11	JM	EPA 200.8 <sup>4</sup>
Mercury	0.63	0.10	0.014	ug/l	1	04/07/11	04/07/11	JB	EPA 245.1 <sup>1</sup>
Selenium	10.7	0.80	0.19	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Silver	0.11 J	0.20	0.0034	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Zinc	6430	20	1.3	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>

- (1) Instrument QC Batch: MA1438
- (2) Instrument QC Batch: MA1458
- (3) Instrument QC Batch: MA1461
- (4) Instrument QC Batch: MA1464
- (5) Instrument QC Batch: MA1472
- (6) Prep QC Batch: MP4409
- (7) Prep QC Batch: MP4411
- (8) Prep QC Batch: MP4493

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
J = Indicates a result > = MDL but < RL

**Report of Analysis**

Page 1 of 1

**Client Sample ID:** MW-3  
**Lab Sample ID:** D22377-3  
**Matrix:** AQ - Ground Water  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	04/06/11 10:15	CB	SM20 3500CR B

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RL = Reporting Limit

**Report of Analysis**

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<b>Client Sample ID:</b>	MW-3	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-3F	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Groundwater Filtered	<b>Percent Solids:</b>	n/a
<b>Project:</b>	40th Street Outfall		

**Dissolved Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	9.5 J	25	5.9	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Barium	49.4	10	1.1	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Cadmium	264	10	0.62	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Chromium	1.3 J	10	0.42	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Iron	12.5 J	70	5.5	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Lead	1.8 U	50	1.8	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Manganese	92.7	5.0	0.28	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Mercury	0.18	0.10	0.014	ug/l	1	04/07/11	04/07/11 JB	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>3</sup>
Selenium	5.7 U	50	5.7	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Silver	0.56 U	30	0.56	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Zinc	216	30	1.4	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>

(1) Instrument QC Batch: MA1438

(2) Instrument QC Batch: MA1444

(3) Prep QC Batch: MP4411

(4) Prep QC Batch: MP4413

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL

**Report of Analysis**

Page 1 of 2

**Client Sample ID:** MW-4  
**Lab Sample ID:** D22377-4  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260B  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	5V14884.D	1	04/12/11	DC	n/a	n/a	V5V874
Run #2							

**Purge Volume**  
Run #1 5.0 ml  
Run #2

**VOA HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
67-64-1	Acetone	ND	10	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	1.0	ug/l	
75-25-2	Bromoform	ND	4.0	1.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	1.0	ug/l	
75-00-3	Chloroethane	ND	4.0	1.5	ug/l	
67-66-3	Chloroform	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	4.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.46	2.0	0.33	ug/l	J
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	2.0	ug/l	
74-83-9	Methyl bromide	ND	4.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	4.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	4.3	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	4.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

<b>Client Sample ID:</b>	MW-4	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-4	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

**VOA HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	1.2	2.0	0.50	ug/l	J
108-88-3	Toluene	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	4.0	0.60	ug/l	
1330-20-7	Xylene (total)	0.75	2.0	0.60	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		63-130%
2037-26-5	Toluene-D8	88%		68-130%
460-00-4	4-Bromofluorobenzene	90%		61-130%

ND = Not detected      MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 1 of 3

<b>Client Sample ID:</b>	MW-4	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-4	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270C SW846 3520C		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	1G101699.D	1	04/12/11	TMB	04/10/11	OP3459	E1G402
Run #2 <sup>a</sup>	1G101832.D	1	04/19/11	TMB	04/18/11	OP3491	E1G406

	<b>Initial Volume</b>	<b>Final Volume</b>
Run #1	815 ml	1.0 ml
Run #2	1060 ml	1.0 ml

**ABN HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
65-85-0	Benzoic Acid	ND	6.1	5.0	ug/l	
95-57-8	2-Chlorophenol	ND	2.5	1.5	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	6.1	3.1	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.5	2.1	ug/l	
105-67-9	2,4-Dimethylphenol	ND	1.2	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	6.1	1.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	2.5	1.2	ug/l	
95-48-7	2-Methylphenol	ND	6.1	3.1	ug/l	
106-44-5	4-Methylphenol	ND	2.5	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	6.1	2.5	ug/l	
100-02-7	4-Nitrophenol	ND	2.5	1.3	ug/l	
87-86-5	Pentachlorophenol	ND	6.1	1.6	ug/l	
108-95-2	Phenol	ND	6.1	2.7	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	2.5	1.6	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	2.5	2.1	ug/l	
83-32-9	Acenaphthene	ND	1.2	1.2	ug/l	
208-96-8	Acenaphthylene	ND	1.2	1.2	ug/l	
120-12-7	Anthracene	ND	2.5	1.6	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.2	1.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.2	1.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.5	1.7	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.5	2.5	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.5	1.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	6.1	1.8	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.5	1.3	ug/l	
100-51-6	Benzyl Alcohol	ND	6.1	2.5	ug/l	
91-58-7	2-Chloronaphthalene	ND	6.1	2.2	ug/l	
106-47-8	4-Chloroaniline	ND	1.2	1.2	ug/l	
218-01-9	Chrysene	ND	1.2	1.2	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	6.1	2.7	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	1.2	1.2	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	6.1	3.1	ug/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

<b>Client Sample ID:</b>	MW-4	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-4	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270C SW846 3520C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	6.1	3.1	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.2	1.2	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.2	1.2	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.2	1.2	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.2	1.2	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	6.1	2.2	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	1.2	1.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.5	2.0	ug/l	
132-64-9	Dibenzofuran	ND	6.1	2.2	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.5	1.6	ug/l	
117-84-0	Di-n-octyl phthalate	ND	6.1	2.2	ug/l	
84-66-2	Diethyl phthalate	ND	6.1	2.5	ug/l	
131-11-3	Dimethyl phthalate	ND	6.1	2.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.5	1.8	ug/l	
206-44-0	Fluoranthene	ND	2.5	1.5	ug/l	
86-73-7	Fluorene	ND	2.5	1.7	ug/l	
118-74-1	Hexachlorobenzene	ND	6.1	2.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.2	1.2	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	6.1	2.2	ug/l	
67-72-1	Hexachloroethane	ND	1.2	1.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.5	2.0	ug/l	
78-59-1	Isophorone	ND	1.2	1.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	6.1	2.2	ug/l	
88-74-4	2-Nitroaniline	ND	6.1	2.7	ug/l	
99-09-2	3-Nitroaniline	ND	6.1	2.2	ug/l	
100-01-6	4-Nitroaniline	ND	6.1	1.8	ug/l	
91-20-3	Naphthalene	ND	1.2	1.2	ug/l	
98-95-3	Nitrobenzene	ND	1.2	1.2	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.5	2.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	1.2	1.2	ug/l	
85-01-8	Phenanthrene	ND	6.1	2.5	ug/l	
129-00-0	Pyrene	ND	1.2	1.2	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	6.1	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	64%	84%	43-130%
4165-62-2	Phenol-d5	63%	78%	47-130%
118-79-6	2,4,6-Tribromophenol	75%	93%	32-138%
4165-60-0	Nitrobenzene-d5	43% b	57%	45-130%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

<b>Client Sample ID:</b> MW-4	<b>Date Sampled:</b> 04/05/11
<b>Lab Sample ID:</b> D22377-4	<b>Date Received:</b> 04/05/11
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8270C SW846 3520C	
<b>Project:</b> 40th Street Outfall	

**ABN HSL List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	45%	56%	45-130%
1718-51-0	Terphenyl-d14	51%	64%	47-136%

(a) Confirmation run.

(b) Outside control limits due to possible matrix interference. Confirmed by re-extraction and reanalysis outside of holdtime.

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 1 of 1

<b>Client Sample ID:</b>	MW-4	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-4	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Project:</b>	40th Street Outfall		

**Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	15.4	1.6	0.62	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Barium	150	4.0	0.36	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Cadmium	5.8	0.20	0.11	ug/l	2	04/18/11	04/20/11	JM	EPA 200.8 <sup>4</sup>
Chromium	0.31 U	4.0	0.31	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Copper	8.3	4.0	0.71	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Iron	2580	80	20	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Lead	26.3	1.0	0.078	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Manganese	2300	2.0	0.25	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Mercury	0.014 U	0.10	0.014	ug/l	1	04/07/11	04/07/11	JB	EPA 245.1 <sup>1</sup>
Selenium	14.1	0.80	0.19	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Silver	0.021 J	0.20	0.0034	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Zinc	121	20	1.3	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>

- (1) Instrument QC Batch: MA1438
- (2) Instrument QC Batch: MA1458
- (3) Instrument QC Batch: MA1461
- (4) Instrument QC Batch: MA1472
- (5) Prep QC Batch: MP4409
- (6) Prep QC Batch: MP4411
- (7) Prep QC Batch: MP4493

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL

**Report of Analysis**

Page 1 of 1

**Client Sample ID:** MW-4  
**Lab Sample ID:** D22377-4  
**Matrix:** AQ - Ground Water  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	04/06/11 10:15	CB	SM20 3500CR B

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RL = Reporting Limit

**Report of Analysis**

Page 1 of 1

<b>Client Sample ID:</b>	MW-4	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-4F	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Groundwater Filtered	<b>Percent Solids:</b>	n/a
<b>Project:</b>	40th Street Outfall		

**Dissolved Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	15.5 J	25	5.9	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Barium	121	10	1.1	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Cadmium	1.9 J	10	0.62	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Chromium	0.80 J	10	0.42	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Iron	28.6 J	70	5.5	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Lead	3.1 J	50	1.8	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Manganese	2140	5.0	0.28	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Mercury	0.014 U	0.10	0.014	ug/l	1	04/07/11	04/07/11 JB	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>3</sup>
Selenium	5.7 U	50	5.7	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Silver	0.56 U	30	0.56	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>
Zinc	31.5	30	1.4	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>2</sup>	EPA 200.7 <sup>4</sup>

(1) Instrument QC Batch: MA1438

(2) Instrument QC Batch: MA1444

(3) Prep QC Batch: MP4411

(4) Prep QC Batch: MP4413

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL

**Report of Analysis**

Page 1 of 2

**Client Sample ID:** MW-5  
**Lab Sample ID:** D22377-5  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260B  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	5V14885.D	1	04/12/11	DC	n/a	n/a	V5V874
Run #2							

**Purge Volume**  
Run #1 5.0 ml  
Run #2

**VOA HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
67-64-1	Acetone	ND	10	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	1.0	ug/l	
75-25-2	Bromoform	ND	4.0	1.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	1.0	ug/l	
75-00-3	Chloroethane	ND	4.0	1.5	ug/l	
67-66-3	Chloroform	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	4.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	2.0	ug/l	
74-83-9	Methyl bromide	ND	4.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	4.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	4.3	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	4.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

<b>Client Sample ID:</b>	MW-5	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-5	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

**VOA HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	4.0	0.60	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.60	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	103%		63-130%
2037-26-5	Toluene-D8	89%		68-130%
460-00-4	4-Bromofluorobenzene	93%		61-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 1 of 3

**Client Sample ID:** MW-5  
**Lab Sample ID:** D22377-5  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8270C SW846 3520C  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	1G101700.D	1	04/12/11	TMB	04/10/11	OP3459	E1G402
Run #2 <sup>a</sup>	1G101833.D	1	04/19/11	TMB	04/18/11	OP3491	E1G406

	<b>Initial Volume</b>	<b>Final Volume</b>
Run #1	1060 ml	1.0 ml
Run #2	830 ml	1.0 ml

**ABN HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
65-85-0	Benzoic Acid	ND	4.7	3.9	ug/l	
95-57-8	2-Chlorophenol	ND	1.9	1.1	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.7	2.4	ug/l	
120-83-2	2,4-Dichlorophenol	ND	1.9	1.6	ug/l	
105-67-9	2,4-Dimethylphenol	ND	0.95	0.95	ug/l	
51-28-5	2,4-Dinitrophenol	ND	4.7	1.1	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	1.9	0.95	ug/l	
95-48-7	2-Methylphenol	ND	4.7	2.4	ug/l	
106-44-5	4-Methylphenol	ND	1.9	1.7	ug/l	
88-75-5	2-Nitrophenol	ND	4.7	1.9	ug/l	
100-02-7	4-Nitrophenol	ND	1.9	1.0	ug/l	
87-86-5	Pentachlorophenol	ND	4.7	1.2	ug/l	
108-95-2	Phenol	ND	4.7	2.1	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	1.9	1.2	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	1.9	1.6	ug/l	
83-32-9	Acenaphthene	ND	0.95	0.95	ug/l	
208-96-8	Acenaphthylene	ND	0.95	0.95	ug/l	
120-12-7	Anthracene	ND	1.9	1.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.95	0.95	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.95	0.85	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	1.9	1.3	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	1.9	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	1.9	0.95	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.7	1.4	ug/l	
85-68-7	Butyl benzyl phthalate	ND	1.9	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	4.7	1.9	ug/l	
91-58-7	2-Chloronaphthalene	ND	4.7	1.7	ug/l	
106-47-8	4-Chloroaniline	ND	0.95	0.95	ug/l	
218-01-9	Chrysene	ND	0.95	0.95	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.7	2.1	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	0.95	0.95	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.7	2.4	ug/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

<b>Client Sample ID:</b>	MW-5	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-5	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270C SW846 3520C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.7	2.4	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	0.95	0.95	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	0.95	0.95	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	0.95	0.95	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.95	0.95	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.7	1.7	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	0.95	0.95	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	1.9	1.5	ug/l	
132-64-9	Dibenzofuran	ND	4.7	1.7	ug/l	
84-74-2	Di-n-butyl phthalate	ND	1.9	1.2	ug/l	
117-84-0	Di-n-octyl phthalate	ND	4.7	1.7	ug/l	
84-66-2	Diethyl phthalate	ND	4.7	1.9	ug/l	
131-11-3	Dimethyl phthalate	ND	4.7	1.9	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	1.9	1.4	ug/l	
206-44-0	Fluoranthene	ND	1.9	1.1	ug/l	
86-73-7	Fluorene	ND	1.9	1.3	ug/l	
118-74-1	Hexachlorobenzene	ND	4.7	1.9	ug/l	
87-68-3	Hexachlorobutadiene	ND	0.95	0.95	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.7	1.7	ug/l	
67-72-1	Hexachloroethane	ND	0.95	0.95	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	1.9	1.5	ug/l	
78-59-1	Isophorone	ND	0.95	0.95	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.7	1.7	ug/l	
88-74-4	2-Nitroaniline	ND	4.7	2.1	ug/l	
99-09-2	3-Nitroaniline	ND	4.7	1.7	ug/l	
100-01-6	4-Nitroaniline	ND	4.7	1.4	ug/l	
91-20-3	Naphthalene	ND	0.95	0.95	ug/l	
98-95-3	Nitrobenzene	ND	0.95	0.95	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	1.9	1.5	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	0.95	0.95	ug/l	
85-01-8	Phenanthrene	ND	4.7	1.9	ug/l	
129-00-0	Pyrene	ND	0.95	0.95	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	4.7	1.7	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	64%	83%	43-130%
4165-62-2	Phenol-d5	60%	75%	47-130%
118-79-6	2,4,6-Tribromophenol	69%	90%	32-138%
4165-60-0	Nitrobenzene-d5	42% <sup>b</sup>	57%	45-130%

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 3 of 3

**Client Sample ID:** MW-5  
**Lab Sample ID:** D22377-5  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8270C SW846 3520C  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

**ABN HSL List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	41% <sup>b</sup>	56%	45-130%
1718-51-0	Terphenyl-d14	47%	60%	47-136%

(a) Confirmation run.

(b) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 1 of 1

<b>Client Sample ID:</b>	MW-5	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-5	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Project:</b>	40th Street Outfall		

**Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	8.5	1.6	0.62	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>4</sup>
Barium	1260	4.0	0.36	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Cadmium	35.7	0.20	0.11	ug/l	2	04/18/11	04/20/11	JM	EPA 200.8 <sup>5</sup>
Chromium	9.1	4.0	0.31	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>4</sup>
Copper	49.5	4.0	0.71	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Iron	56400	80	20	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>4</sup>
Lead	1450	1.0	0.078	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Manganese	1360	2.0	0.25	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>4</sup>
Mercury	0.038 J	0.10	0.014	ug/l	1	04/07/11	04/07/11	JB	EPA 245.1 <sup>1</sup>
Selenium	7.3	0.80	0.19	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Silver	0.082 J	0.20	0.0034	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Zinc	2680	20	1.3	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>

- (1) Instrument QC Batch: MA1438
- (2) Instrument QC Batch: MA1458
- (3) Instrument QC Batch: MA1460
- (4) Instrument QC Batch: MA1461
- (5) Instrument QC Batch: MA1472
- (6) Prep QC Batch: MP4409
- (7) Prep QC Batch: MP4411
- (8) Prep QC Batch: MP4493

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL

**Report of Analysis**

Page 1 of 1

**Client Sample ID:** MW-5  
**Lab Sample ID:** D22377-5  
**Matrix:** AQ - Ground Water  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent <sup>a</sup>	< 0.050	0.050	mg/l	5	04/06/11 10:15	CB	SM20 3500CR B

(a) Dilution required due to matrix interference.

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RL = Reporting Limit

**Report of Analysis**

Page 1 of 1

<b>Client Sample ID:</b>	MW-5	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-5F	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Groundwater Filtered	<b>Percent Solids:</b>	n/a
<b>Project:</b>	40th Street Outfall		

**Dissolved Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	7.6 J	25	5.9	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Barium	548	10	1.1	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Cadmium	0.90 J	10	0.62	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Chromium	0.60 J	10	0.42	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Iron	23300	70	5.5	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Lead	11.7 J	50	1.8	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Manganese	775	5.0	0.28	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Mercury	0.014 U	0.10	0.014	ug/l	1	04/13/11	04/14/11 JB	EPA 245.1 <sup>2</sup>	EPA 245.1 <sup>4</sup>
Selenium	5.7 U	50	5.7	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Silver	0.56 U	30	0.56	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Zinc	53.3	30	1.4	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>

(1) Instrument QC Batch: MA1444

(2) Instrument QC Batch: MA1457

(3) Prep QC Batch: MP4413

(4) Prep QC Batch: MP4447

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL

**Report of Analysis**

Page 1 of 2

**Client Sample ID:** MW-6  
**Lab Sample ID:** D22377-6  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260B  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	5V14886.D	1	04/12/11	DC	n/a	n/a	V5V874
Run #2							

**Purge Volume**  
Run #1 5.0 ml  
Run #2

**VOA HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
67-64-1	Acetone	ND	10	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	1.0	ug/l	
75-25-2	Bromoform	ND	4.0	1.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	1.0	ug/l	
75-00-3	Chloroethane	ND	4.0	1.5	ug/l	
67-66-3	Chloroform	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	4.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	31.6	2.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	0.39	2.0	0.30	ug/l	J
591-78-6	2-Hexanone	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	2.0	ug/l	
74-83-9	Methyl bromide	ND	4.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	4.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	4.3	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	4.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 2 of 2

<b>Client Sample ID:</b>	MW-6	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-6	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260B		
<b>Project:</b>	40th Street Outfall		

**VOA HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	26.3	2.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethylene	10.0	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	4.0	0.60	ug/l	
1330-20-7	Xylene (total)	0.71	2.0	0.60	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	114%		63-130%
2037-26-5	Toluene-D8	94%		68-130%
460-00-4	4-Bromofluorobenzene	97%		61-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 1 of 3

<b>Client Sample ID:</b>	MW-6	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-6	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270C SW846 3520C		
<b>Project:</b>	40th Street Outfall		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	1G101701.D	1	04/12/11	TMB	04/10/11	OP3459	E1G402
Run #2 <sup>a</sup>	1G101834.D	1	04/19/11	TMB	04/18/11	OP3491	E1G406

	<b>Initial Volume</b>	<b>Final Volume</b>
Run #1	815 ml	1.0 ml
Run #2	1050 ml	1.0 ml

**ABN HSL List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
65-85-0	Benzoic Acid	ND	6.1	5.0	ug/l	
95-57-8	2-Chlorophenol	ND	2.5	1.5	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	6.1	3.1	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.5	2.1	ug/l	
105-67-9	2,4-Dimethylphenol	ND	1.2	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	6.1	1.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	2.5	1.2	ug/l	
95-48-7	2-Methylphenol	ND	6.1	3.1	ug/l	
106-44-5	4-Methylphenol	ND	2.5	2.2	ug/l	
88-75-5	2-Nitrophenol	ND	6.1	2.5	ug/l	
100-02-7	4-Nitrophenol	ND	2.5	1.3	ug/l	
87-86-5	Pentachlorophenol	ND	6.1	1.6	ug/l	
108-95-2	Phenol	ND	6.1	2.7	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	2.5	1.6	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	2.5	2.1	ug/l	
83-32-9	Acenaphthene	ND	1.2	1.2	ug/l	
208-96-8	Acenaphthylene	ND	1.2	1.2	ug/l	
120-12-7	Anthracene	ND	2.5	1.6	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.2	1.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.2	1.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.5	1.7	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.5	2.5	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.5	1.2	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	6.1	1.8	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.5	1.3	ug/l	
100-51-6	Benzyl Alcohol	ND	6.1	2.5	ug/l	
91-58-7	2-Chloronaphthalene	ND	6.1	2.2	ug/l	
106-47-8	4-Chloroaniline	ND	1.2	1.2	ug/l	
218-01-9	Chrysene	ND	1.2	1.2	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	6.1	2.7	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	1.2	1.2	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	6.1	3.1	ug/l	

ND = Not detected MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

<b>Client Sample ID:</b>	MW-6	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-6	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270C SW846 3520C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	6.1	3.1	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.2	1.2	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.2	1.2	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.2	1.2	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	1.2	1.2	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	6.1	2.2	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	1.2	1.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.5	2.0	ug/l	
132-64-9	Dibenzofuran	ND	6.1	2.2	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.5	1.6	ug/l	
117-84-0	Di-n-octyl phthalate	ND	6.1	2.2	ug/l	
84-66-2	Diethyl phthalate	ND	6.1	2.5	ug/l	
131-11-3	Dimethyl phthalate	ND	6.1	2.5	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.5	1.8	ug/l	
206-44-0	Fluoranthene	ND	2.5	1.5	ug/l	
86-73-7	Fluorene	ND	2.5	1.7	ug/l	
118-74-1	Hexachlorobenzene	ND	6.1	2.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.2	1.2	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	6.1	2.2	ug/l	
67-72-1	Hexachloroethane	ND	1.2	1.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.5	2.0	ug/l	
78-59-1	Isophorone	ND	1.2	1.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	6.1	2.2	ug/l	
88-74-4	2-Nitroaniline	ND	6.1	2.7	ug/l	
99-09-2	3-Nitroaniline	ND	6.1	2.2	ug/l	
100-01-6	4-Nitroaniline	ND	6.1	1.8	ug/l	
91-20-3	Naphthalene	1.2	1.2	1.2	ug/l	
98-95-3	Nitrobenzene	ND	1.2	1.2	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.5	2.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	1.2	1.2	ug/l	
85-01-8	Phenanthrene	ND	6.1	2.5	ug/l	
129-00-0	Pyrene	ND	1.2	1.2	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	6.1	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	70%	88%	43-130%
4165-62-2	Phenol-d5	70%	83%	47-130%
118-79-6	2,4,6-Tribromophenol	80%	85%	32-138%
4165-60-0	Nitrobenzene-d5	47%	62%	45-130%

ND = Not detected      MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

**Report of Analysis**

<b>Client Sample ID:</b>	MW-6	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-6	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270C SW846 3520C		
<b>Project:</b>	40th Street Outfall		

**ABN HSL List**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	41% <sup>b</sup>	57%	45-130%
1718-51-0	Terphenyl-d14	56%	72%	47-136%

(a) Confirmation run.

(b) Outside control limits due to possible matrix interference. Confirmed by re-extraction and reanalysis outside of holdtime.

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

**Report of Analysis**

Page 1 of 1

<b>Client Sample ID:</b>	MW-6	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-6	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Project:</b>	40th Street Outfall		

**Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	57.3	1.6	0.62	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Barium	1040	4.0	0.36	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Cadmium	29.2	0.20	0.11	ug/l	2	04/18/11	04/20/11	JM	EPA 200.8 <sup>4</sup>
Chromium	7.4	4.0	0.31	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Copper	44.5	4.0	0.71	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Iron	35800	80	20	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Lead	573	1.0	0.078	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Manganese	5640	2.0	0.25	ug/l	2	04/07/11	04/16/11	JM	EPA 200.8 <sup>3</sup>
Mercury	0.014 U	0.10	0.014	ug/l	1	04/07/11	04/07/11	JB	EPA 245.1 <sup>1</sup>
Selenium	88.7	0.80	0.19	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Silver	0.15 J	0.20	0.0034	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>
Zinc	503	20	1.3	ug/l	2	04/07/11	04/15/11	JM	EPA 200.8 <sup>2</sup>

- (1) Instrument QC Batch: MA1438
- (2) Instrument QC Batch: MA1458
- (3) Instrument QC Batch: MA1461
- (4) Instrument QC Batch: MA1472
- (5) Prep QC Batch: MP4409
- (6) Prep QC Batch: MP4411
- (7) Prep QC Batch: MP4493

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL

**Report of Analysis**

Page 1 of 1

**Client Sample ID:** MW-6  
**Lab Sample ID:** D22377-6  
**Matrix:** AQ - Ground Water  
**Project:** 40th Street Outfall

**Date Sampled:** 04/05/11  
**Date Received:** 04/05/11  
**Percent Solids:** n/a

**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.010	0.010	mg/l	1	04/06/11 10:15	CB	SM20 3500CR B

---

RL = Reporting Limit

**Report of Analysis**

Page 1 of 1

<b>Client Sample ID:</b>	MW-6	<b>Date Sampled:</b>	04/05/11
<b>Lab Sample ID:</b>	D22377-6F	<b>Date Received:</b>	04/05/11
<b>Matrix:</b>	AQ - Groundwater Filtered	<b>Percent Solids:</b>	n/a
<b>Project:</b>	40th Street Outfall		

**Dissolved Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	11.7 J	25	5.9	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Barium	591	10	1.1	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Cadmium	0.62 U	10	0.62	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Chromium	1.7 J	10	0.42	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Iron	1000	70	5.5	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Lead	4.6 J	50	1.8	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Manganese	3370	5.0	0.28	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Mercury	0.030 J	0.10	0.014	ug/l	1	04/13/11	04/14/11 JB	EPA 245.1 <sup>2</sup>	EPA 245.1 <sup>4</sup>
Selenium	5.7 U	50	5.7	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Silver	0.56 U	30	0.56	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>
Zinc	10.6 J	30	1.4	ug/l	1	04/07/11	04/08/11 GJ	EPA 200.7 <sup>1</sup>	EPA 200.7 <sup>3</sup>

(1) Instrument QC Batch: MA1444

(2) Instrument QC Batch: MA1457

(3) Prep QC Batch: MP4413

(4) Prep QC Batch: MP4447

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 J = Indicates a result > = MDL but < RL



## Misc. Forms

### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody



## CHAIN OF CUSTODY

PAGE \_\_\_\_ OF \_\_\_\_

Accutest Laboratories Mountain States  
4036 Youngfield Street Wheat Ridge, CO 80033  
TEL. 303-425-6021 877-737-4521  
FAX 303-425-6021

FED EX Tracking #	Bottle Order Control #
Accutest Quake #	Accutest Job # D22377

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)		Matrix Codes										
Company Name <b>CTL THOMPSON</b>	Project Name <b>YOUTH STREET OUTFALL</b>	Street:				DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OR - Oil LIQ - Other Liquid AR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank										
Street Address <b>1971 W. 12TH AVE</b>	City: <b>DENVER</b>	Billing Information (If different from Report to)		Company Name												
City: <b>DENVER CO</b>	State: <b>CO</b>	Zip: <b>80204</b>	Project# <b>44666-205</b>	Street Address												
Project Contact <b>M. THOMAS</b>	E-mail <b>44666-205</b>	Phone # <b>303-825-0777</b>	Fax # <b>720-904-1720</b>	Client PO#	City	State	Zip									
Sampler(s) Name(s) <b>T. THOMAS</b>	Phone # <b>303-356-6608</b>	Project Manager <b>M. WILSON</b>	Attention: <b>M. WILSON</b>	PO#												
				Number of preserved Bottles												
Accutest Sample #	Field ID / Point of Collection	Collection		# of bottles	HCl	NaOH	HNO3	H2SO4	DI Water	MEOH	ENCLOSURE	Bottles	8260 + NTSGE			
		MEOH/DI Vial #	Date										Time	Sampled by	Matrix	
MW-1		12:49	TC GO	7	X	X										01
MW-2		13:20		7												02
MW-3		14:00		7												03
MW-4		14:30		7												04
MW-5		14:45		7												05
MW-6		15:15		7												06
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Turnaround Time (Business days)  
 Std. 10 Business Days  
 Std. 5 Business Days (By Contract only)  
 5 Day R/S  
 3 Day EMERGENC  
 2 Day EMERGENC  
 1 Day EMERGENC

Approved By (Accutest PM): / Date: \_\_\_\_\_

Commercial "A" (Level 1)   
 Commercial "B" (Level 2)   
 Commercial "B" + Narrative  
 FULLT1 (Level 3+4)  
 State Forms   
 EDD Format   
 PDF

Comments / Special Instructions  
 EMAIL: [NIAOLCD@CTLTHOMPSON.COM](mailto:NIAOLCD@CTLTHOMPSON.COM)  
 B260-N.A.P (P)

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: <b>JACOB PORTER</b>	Received By: <b>44666-205</b>	Relinquished By: <b>2</b>	Date Time: <b>1725</b>
Relinquished by Sampler: <b>3</b>	Received By: <b>5</b>	Relinquished By: <b>4</b>	Date Time: <b>1725</b>
Relinquished by: <b>5</b>	Received By: <b>5</b>	Custody Seal # <b>6</b>	Preserved where applicable Intact: <input type="checkbox"/> Not Intact: <input type="checkbox"/>

On Ice: **AB** Cooler Temp: **3.0°C**



## Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D22377

Client: CTL THOMPSON

Immediate Client Services Action Required: No

Date / Time Received: 4/5/2011 5:25:00 PM

No. Coolers: 1

Client Service Action Required at Login: No

Project: 40TH ST. OUTFALL

Airbill #'s: HD

**Cooler Security****Y or N**

1. Custody Seals Present:      3. COC Present:    
 2. Custody Seals Intact:      4. Smpl Dates/Time OK

**Cooler Temperature****Y or N**

1. Temp criteria achieved:    
 2. Cooler temp verification: Infrared gun  
 3. Cooler media: Ice (bag)

**Quality Control Preservation****Y or N****N/A**

1. Trip Blank present / cooler:    
 2. Trip Blank listed on COC:    
 3. Samples preserved properly:    
 4. VOCs headspace free:

**Sample Integrity - Documentation****Y or N**

1. Sample labels present on bottles:    
 2. Container labeling complete:    
 3. Sample container label / COC agree:

**Sample Integrity - Condition****Y or N**

1. Sample recvd within HT:    
 2. All containers accounted for:    
 3. Condition of sample: Intact

**Sample Integrity - Instructions****Y or N****N/A**

1. Analysis requested is clear:    
 2. Bottles received for unspecified tests:    
 3. Sufficient volume rec'd for analysis:    
 4. Compositing instructions clear:     
 5. Filtering instructions clear:

Comments

Accutest Laboratories  
V:(303) 425-60214036 Youngfield Street  
F: (303) 425-6854Wheat Ridge, CO  
www.accutest.com

D22377: Chain of Custody

Page 2 of 3

**Job Change Order:** D22377\_4/27/2011

**Requested Date:** 4/27/2011      **Received Date:** 4/5/2011  
**Account Name:** CTL/Thompson, Inc.      **Due Date:** 4/19/2011  
**Project Description:** 40th Street Outfall      **Deliverable:** COMMBN  
**CSR:** AK      **TAT (Days):** 14

**Sample #:** D22377-1 through 6

**Change:** Please relog on original and R sample for CU. Please report to ntalocco@ctlthompson.com. Please issue with MDL reporting for this job only.

*CUMS OR 6/4/11*

Nick Talocco

**Above Changes**

Date: 4/27/2011

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service

Page 1 of 1

D22377: Chain of Custody

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## GC/MS Volatiles

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

## Method Blank Summary

Page 1 of 2

Job Number: D22377

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V874-MB1	5V14869.D	1	04/12/11	DC	n/a	n/a	V5V874

The QC reported here applies to the following samples:

Method: SW846 8260B

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	4.0	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	1.0	ug/l	
75-25-2	Bromoform	ND	4.0	1.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	1.0	ug/l	
75-00-3	Chloroethane	ND	4.0	1.5	ug/l	
67-66-3	Chloroform	ND	2.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	4.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	0.33	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	1.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.30	ug/l	
591-78-6	2-Hexanone	ND	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	2.0	ug/l	
74-83-9	Methyl bromide	ND	4.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	4.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	4.3	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	1.0	ug/l	
100-42-5	Styrene	ND	4.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	

## Method Blank Summary

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Job Number: D22377

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V874-MB1	5V14869.D	1	04/12/11	DC	n/a	n/a	V5V874

The QC reported here applies to the following samples:

Method: SW846 8260B

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	4.0	0.60	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.60	ug/l	

CAS No.	Surrogate Recoveries	Limits
17060-07-0	1,2-Dichloroethane-D4	87% 63-130%
2037-26-5	Toluene-D8	83% 68-130%
460-00-4	4-Bromofluorobenzene	81% 61-130%

## Blank Spike Summary

Page 1 of 2

Job Number: D22377

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V874-BS1	5V14870.D	1	04/12/11	DC	n/a	n/a	V5V874

The QC reported here applies to the following samples:

Method: SW846 8260B

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	41.5	83	49-130
71-43-2	Benzene	50	46.4	93	70-130
75-27-4	Bromodichloromethane	50	49.3	99	70-130
75-25-2	Bromoform	50	46.0	92	48-138
108-90-7	Chlorobenzene	50	46.7	93	70-130
75-00-3	Chloroethane	50	41.0	82	61-130
67-66-3	Chloroform	50	52.4	105	70-130
110-75-8	2-Chloroethyl vinyl ether	50	32.8	66	22-185
75-15-0	Carbon disulfide	50	46.8	94	55-130
56-23-5	Carbon tetrachloride	50	58.4	117	70-130
75-34-3	1,1-Dichloroethane	50	47.8	96	70-130
75-35-4	1,1-Dichloroethylene	50	48.3	97	70-130
107-06-2	1,2-Dichloroethane	50	51.7	103	70-130
78-87-5	1,2-Dichloropropane	50	44.1	88	70-130
124-48-1	Dibromochloromethane	50	50.1	100	64-132
156-59-2	cis-1,2-Dichloroethylene	50	47.8	96	70-130
10061-01-5	cis-1,3-Dichloropropene	50	47.8	96	67-130
541-73-1	m-Dichlorobenzene	50	41.6	83	52-148
95-50-1	o-Dichlorobenzene	50	42.4	85	53-146
106-46-7	p-Dichlorobenzene	50	41.0	82	57-136
156-60-5	trans-1,2-Dichloroethylene	50	47.7	95	70-130
10061-02-6	trans-1,3-Dichloropropene	50	47.5	95	66-130
100-41-4	Ethylbenzene	50	48.2	96	70-130
591-78-6	2-Hexanone	50	29.5	59	38-130
108-10-1	4-Methyl-2-pentanone	50	39.2	78	68-130
74-83-9	Methyl bromide	50	45.1	90	35-151
74-87-3	Methyl chloride	50	33.5	67	46-138
75-09-2	Methylene chloride	50	42.8	86	70-130
78-93-3	Methyl ethyl ketone	50	43.8	88	37-130
1634-04-4	Methyl Tert Butyl Ether	100	103	103	70-146
100-42-5	Styrene	50	44.8	90	38-130
71-55-6	1,1,1-Trichloroethane	50	54.8	110	70-130
79-34-5	1,1,2,2-Tetrachloroethane	50	36.4	73	70-130
79-00-5	1,1,2-Trichloroethane	50	42.9	86	69-130
127-18-4	Tetrachloroethylene	50	49.0	98	66-134
108-88-3	Toluene	50	45.4	91	70-140

## Blank Spike Summary

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Job Number: D22377  
Account: CTLTCOD CTL/Thompson, Inc.  
Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V874-BS1	5V14870.D	1	04/12/11	DC	n/a	n/a	V5V874

The QC reported here applies to the following samples:

Method: SW846 8260B

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
79-01-6	Trichloroethylene	50	48.8	98	70-130
75-01-4	Vinyl chloride	50	37.0	74	58-135
108-05-4	Vinyl Acetate	50	50.7	101	50-130
1330-20-7	Xylene (total)	100	89.0	89	55-134

CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4	98%	63-130%
2037-26-5	Toluene-D8	94%	68-130%
460-00-4	4-Bromofluorobenzene	100%	61-130%

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 2

Job Number: D22377

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D22548-1MS	5V14872.D	1	04/12/11	DC	n/a	n/a	V5V874
D22548-1MSD	5V14873.D	1	04/12/11	DC	n/a	n/a	V5V874
D22548-1	5V14871.D	1	04/12/11	DC	n/a	n/a	V5V874

The QC reported here applies to the following samples:

Method: SW846 8260B

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	D22548-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		50	34.2	68	34.2	68	0	21-130/30
71-43-2	Benzene	ND		50	48.2	96	48.1	96	0	59-132/30
75-27-4	Bromodichloromethane	ND		50	52.4	105	52.7	105	1	58-130/30
75-25-2	Bromoform	ND		50	48.1	96	48.2	96	0	45-140/30
108-90-7	Chlorobenzene	ND		50	48.7	97	47.7	95	2	70-130/30
75-00-3	Chloroethane	ND		50	42.4	85	41.9	84	1	61-130/30
67-66-3	Chloroform	ND		50	53.6	107	54.4	109	1	69-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		50	ND	0* <sup>a</sup>	ND	0* <sup>a</sup>	nc	20-168/30
75-15-0	Carbon disulfide	ND		50	47.0	94	47.1	94	0	41-132/30
56-23-5	Carbon tetrachloride	ND		50	61.1	122	62.1	124	2	70-130/30
75-34-3	1,1-Dichloroethane	ND		50	49.4	99	49.6	99	0	70-130/30
75-35-4	1,1-Dichloroethylene	ND		50	48.5	97	48.4	97	0	69-137/30
107-06-2	1,2-Dichloroethane	1.6	J	50	55.2	107	54.5	106	1	62-130/30
78-87-5	1,2-Dichloropropane	ND		50	45.5	91	46.7	93	3	63-131/30
124-48-1	Dibromochloromethane	ND		50	52.1	104	53.6	107	3	52-141/30
156-59-2	cis-1,2-Dichloroethylene	ND		50	49.2	98	48.2	96	2	70-130/30
10061-01-5	cis-1,3-Dichloropropene	ND		50	50.0	100	50.1	100	0	51-134/30
541-73-1	m-Dichlorobenzene	ND		50	44.1	88	42.6	85	3	38-148/30
95-50-1	o-Dichlorobenzene	ND		50	44.5	89	43.1	86	3	40-148/30
106-46-7	p-Dichlorobenzene	ND		50	43.4	87	42.6	85	2	43-136/30
156-60-5	trans-1,2-Dichloroethylene	ND		50	48.9	98	49.6	99	1	69-134/30
10061-02-6	trans-1,3-Dichloropropene	ND		50	50.3	101	50.7	101	1	50-130/30
100-41-4	Ethylbenzene	0.36	J	50	49.7	99	48.2	96	3	68-130/30
591-78-6	2-Hexanone	ND		50	29.9	60	29.0	58	3	29-130/30
108-10-1	4-Methyl-2-pentanone	ND		50	42.5	85	40.9	82	4	62-130/30
74-83-9	Methyl bromide	ND		50	47.4	95	46.0	92	3	20-171/30
74-87-3	Methyl chloride	ND		50	34.4	69	34.1	68	1	25-148/30
75-09-2	Methylene chloride	ND		50	44.1	88	44.1	88	0	58-139/30
78-93-3	Methyl ethyl ketone	ND		50	39.6	79	40.2	80	2	37-130/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	51.8	104	52.4	105	1	57-150/30
100-42-5	Styrene	ND		50	46.8	94	45.6	91	3	27-130/30
71-55-6	1,1,1-Trichloroethane	ND		50	58.0	116	57.8	116	0	70-130/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	38.1	76	37.2	74	2	61-140/30
79-00-5	1,1,2-Trichloroethane	ND		50	45.0	90	44.2	88	2	52-135/30
127-18-4	Tetrachloroethylene	ND		50	49.9	100	49.7	99	0	61-134/30
108-88-3	Toluene	ND		50	45.6	91	44.9	90	2	56-142/30

# Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: D22377

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D22548-1MS	5V14872.D	1	04/12/11	DC	n/a	n/a	V5V874
D22548-1MSD	5V14873.D	1	04/12/11	DC	n/a	n/a	V5V874
D22548-1	5V14871.D	1	04/12/11	DC	n/a	n/a	V5V874

The QC reported here applies to the following samples:

Method: SW846 8260B

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	D22548-1 ug/l	Spike Q	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD	
79-01-6	Trichloroethylene	ND	50	51.1	102	50.9	102	0	61-132/30	
75-01-4	Vinyl chloride	ND	50	37.1	74	36.8	74	1	54-148/30	
108-05-4	Vinyl Acetate	ND	50	50.4	101	49.6	99	2	40-139/30	
1330-20-7	Xylene (total)	1.7	J	100	92.1	90	90.0	88	2	36-146/30

CAS No.	Surrogate Recoveries	MS	MSD	D22548-1	Limits
17060-07-0	1,2-Dichloroethane-D4	93%	93%	83%	63-130%
2037-26-5	Toluene-D8	87%	88%	74%	68-130%
460-00-4	4-Bromofluorobenzene	99%	98%	76%	61-130%

(a) Recovery of 2-chloroethyl vinyl ether is affected by sample preservation.



## GC/MS Semi-volatiles

### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



## Method Blank Summary

Page 1 of 3

Job Number: D22377

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3459-MB	1G101686.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402

The QC reported here applies to the following samples:

Method: SW846 8270C

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	5.0	4.1	ug/l	
95-57-8	2-Chlorophenol	ND	2.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	2.5	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.7	ug/l	
105-67-9	2,4-Dimethylphenol	ND	1.0	1.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	5.0	1.2	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	2.0	1.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	2.5	ug/l	
106-44-5	4-Methylphenol	ND	2.0	1.8	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	2.0	ug/l	
100-02-7	4-Nitrophenol	ND	2.0	1.1	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	1.3	ug/l	
108-95-2	Phenol	ND	5.0	2.2	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	2.0	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	2.0	1.7	ug/l	
83-32-9	Acenaphthene	ND	1.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	1.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.3	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.0	0.90	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.0	1.4	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.0	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	1.1	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	2.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.8	ug/l	
106-47-8	4-Chloroaniline	ND	1.0	1.0	ug/l	
218-01-9	Chrysene	ND	1.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	2.2	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	1.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	2.5	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	2.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	1.0	ug/l	

## Method Blank Summary

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Job Number: D22377

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3459-MB	1G101686.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402

The QC reported here applies to the following samples:

Method: SW846 8270C

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	Result	RL	MDL	Units	Q
121-14-2	2,4-Dinitrotoluene	ND	1.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.8	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	1.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	1.6	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.8	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	1.3	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.8	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	2.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	1.5	ug/l	
206-44-0	Fluoranthene	ND	2.0	1.2	ug/l	
86-73-7	Fluorene	ND	2.0	1.4	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	1.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.8	ug/l	
67-72-1	Hexachloroethane	ND	1.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	1.6	ug/l	
78-59-1	Isophorone	ND	1.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.8	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	2.2	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	1.8	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	1.5	ug/l	
91-20-3	Naphthalene	ND	1.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	1.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	1.6	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	1.0	1.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	2.0	ug/l	
129-00-0	Pyrene	ND	1.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.8	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	57% 43-130%
4165-62-2	Phenol-d5	57% 47-130%
118-79-6	2,4,6-Tribromophenol	57% 32-138%

## Method Blank Summary

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Job Number: D22377

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3459-MB	1G101686.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402

The QC reported here applies to the following samples:

Method: SW846 8270C

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	38%* a
321-60-8	2-Fluorobiphenyl	39%* a
1718-51-0	Terphenyl-d14	61%

(a) Confirmed by re-extract and reanalysis.

## Method Blank Summary

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Job Number: D22377

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3459-MB <sup>a</sup>	1G101708.D	1	04/12/11	TMB	04/10/11	OP3459	E1G402

The QC reported here applies to the following samples:

Method: SW846 8270C

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	5.0	4.1	ug/l	
95-57-8	2-Chlorophenol	ND	2.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	2.5	ug/l	
120-83-2	2,4-Dichlorophenol	ND	2.0	1.7	ug/l	
105-67-9	2,4-Dimethylphenol	ND	1.0	1.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	5.0	1.2	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	2.0	1.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	2.5	ug/l	
106-44-5	4-Methylphenol	ND	2.0	1.8	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	2.0	ug/l	
100-02-7	4-Nitrophenol	ND	2.0	1.1	ug/l	
87-86-5	Pentachlorophenol	ND	5.0	1.3	ug/l	
108-95-2	Phenol	ND	5.0	2.2	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	2.0	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	2.0	1.7	ug/l	
83-32-9	Acenaphthene	ND	1.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	1.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.3	ug/l	
56-55-3	Benzo(a)anthracene	ND	1.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	1.0	0.90	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	2.0	1.4	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	2.0	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	2.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.5	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	1.1	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	2.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.8	ug/l	
106-47-8	4-Chloroaniline	ND	1.0	1.0	ug/l	
218-01-9	Chrysene	ND	1.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	2.2	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	1.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	2.5	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	2.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	1.0	ug/l	

## Method Blank Summary

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Job Number: D22377

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3459-MB <sup>a</sup>	1G101708.D 1		04/12/11	TMB	04/10/11	OP3459	E1G402

The QC reported here applies to the following samples:

Method: SW846 8270C

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	Result	RL	MDL	Units	Q
121-14-2	2,4-Dinitrotoluene	ND	1.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.8	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	1.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	1.6	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.8	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	1.3	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.8	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	2.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	1.5	ug/l	
206-44-0	Fluoranthene	ND	2.0	1.2	ug/l	
86-73-7	Fluorene	ND	2.0	1.4	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	2.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	1.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.8	ug/l	
67-72-1	Hexachloroethane	ND	1.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	1.6	ug/l	
78-59-1	Isophorone	ND	1.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.8	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	2.2	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	1.8	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	1.5	ug/l	
91-20-3	Naphthalene	ND	1.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	1.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	1.6	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	1.0	1.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	2.0	ug/l	
129-00-0	Pyrene	ND	1.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.8	ug/l	

CAS No.	Surrogate Recoveries	Limits
367-12-4	2-Fluorophenol	57% 43-130%
4165-62-2	Phenol-d5	56% 47-130%
118-79-6	2,4,6-Tribromophenol	56% 32-138%

## Method Blank Summary

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Job Number: D22377  
Account: CTLTCOD CTL/Thompson, Inc.  
Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3459-MB <sup>a</sup>	1G101708.D	1	04/12/11	TMB	04/10/11	OP3459	E1G402

The QC reported here applies to the following samples:

Method: SW846 8270C

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	39%* <sup>b</sup>
321-60-8	2-Fluorobiphenyl	40%* <sup>b</sup>
1718-51-0	Terphenyl-d14	62%

(a) Confirmation run.

(b) Confirmed by reanalysis.

## Blank Spike Summary

Page 1 of 3

Job Number: D22377  
Account: CTLTCOD CTL/Thompson, Inc.  
Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3459-BS	1G101687.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402

The QC reported here applies to the following samples:

Method: SW846 8270C

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	50	25.6	51	17-130
95-57-8	2-Chlorophenol	50	36.8	74	42-130
59-50-7	4-Chloro-3-methyl phenol	50	37.9	76	46-130
120-83-2	2,4-Dichlorophenol	50	37.8	76	47-130
105-67-9	2,4-Dimethylphenol	50	26.8	54	31-130
51-28-5	2,4-Dinitrophenol	50	39.1	78	35-135
534-52-1	4,6-Dinitro-o-cresol	50	36.3	73	54-130
95-48-7	2-Methylphenol	50	37.1	74	47-130
106-44-5	4-Methylphenol	50	37.4	75	45-130
88-75-5	2-Nitrophenol	50	36.7	73	43-130
100-02-7	4-Nitrophenol	50	38.9	78	52-130
87-86-5	Pentachlorophenol	50	37.0	74	49-130
108-95-2	Phenol	50	36.5	73	32-130
95-95-4	2,4,5-Trichlorophenol	50	36.0	72	59-130
88-06-2	2,4,6-Trichlorophenol	50	36.5	73	57-130
83-32-9	Acenaphthene	50	32.7	65	58-130
208-96-8	Acenaphthylene	50	33.8	68	56-130
120-12-7	Anthracene	50	36.2	72	59-130
56-55-3	Benzo(a)anthracene	50	40.9	82	58-130
50-32-8	Benzo(a)pyrene	50	35.6	71	58-130
205-99-2	Benzo(b)fluoranthene	50	36.6	73	64-130
191-24-2	Benzo(g,h,i)perylene	50	34.2	68	62-130
207-08-9	Benzo(k)fluoranthene	50	40.7	81	60-130
101-55-3	4-Bromophenyl phenyl ether	50	37.4	75	65-130
85-68-7	Butyl benzyl phthalate	50	37.2	74	56-130
100-51-6	Benzyl Alcohol	50	39.7	79	60-130
91-58-7	2-Chloronaphthalene	50	31.6	63	60-130
106-47-8	4-Chloroaniline	50	36.3	73	32-130
218-01-9	Chrysene	50	35.1	70	58-130
111-91-1	bis(2-Chloroethoxy)methane	50	34.6	69	58-130
111-44-4	bis(2-Chloroethyl)ether	50	35.1	70	55-130
108-60-1	bis(2-Chloroisopropyl)ether	50	33.9	68	53-130
7005-72-3	4-Chlorophenyl phenyl ether	50	35.4	71	67-130
95-50-1	1,2-Dichlorobenzene	50	28.3	57	52-130
541-73-1	1,3-Dichlorobenzene	50	27.2	54	50-130
106-46-7	1,4-Dichlorobenzene	50	27.0	54	51-130

## Blank Spike Summary

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Job Number: D22377  
Account: CTLTCOD CTL/Thompson, Inc.  
Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3459-BS	1G101687.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402

The QC reported here applies to the following samples:

Method: SW846 8270C

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
121-14-2	2,4-Dinitrotoluene	50	37.9	76	51-131
606-20-2	2,6-Dinitrotoluene	50	38.8	78	59-130
91-94-1	3,3'-Dichlorobenzidine	50	33.5	67	51-130
53-70-3	Dibenzo(a,h)anthracene	50	36.3	73	62-130
132-64-9	Dibenzofuran	50	33.1	66	60-130
84-74-2	Di-n-butyl phthalate	50	37.7	75	55-130
117-84-0	Di-n-octyl phthalate	50	36.6	73	59-130
84-66-2	Diethyl phthalate	50	34.0	68	38-120
131-11-3	Dimethyl phthalate	50	38.6	77	51-130
117-81-7	bis(2-Ethylhexyl)phthalate	50	37.6	75	58-130
206-44-0	Fluoranthene	50	37.7	75	60-130
86-73-7	Fluorene	50	35.7	71	61-130
118-74-1	Hexachlorobenzene	50	35.4	71	58-130
87-68-3	Hexachlorobutadiene	50	26.6	53	42-130
77-47-4	Hexachlorocyclopentadiene	50	4.1	8* <sup>a</sup>	10-110
67-72-1	Hexachloroethane	50	24.7	49	43-130
193-39-5	Indeno(1,2,3-cd)pyrene	50	30.2	60* <sup>b</sup>	62-130
78-59-1	Isophorone	50	38.9	78	52-130
91-57-6	2-Methylnaphthalene	50	30.9	62	54-130
88-74-4	2-Nitroaniline	50	37.9	76	60-130
99-09-2	3-Nitroaniline	50	41.8	84	62-130
100-01-6	4-Nitroaniline	50	36.1	72	56-130
91-20-3	Naphthalene	50	30.2	60	54-130
98-95-3	Nitrobenzene	50	33.5	67	50-130
621-64-7	N-Nitroso-di-n-propylamine	50	38.8	78	60-130
86-30-6	N-Nitrosodiphenylamine	50	39.2	78	54-130
85-01-8	Phenanthrene	50	34.5	69	62-130
129-00-0	Pyrene	50	36.2	72	54-130
120-82-1	1,2,4-Trichlorobenzene	50	28.0	56	52-130

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	68%	43-130%
4165-62-2	Phenol-d5	69%	47-130%
118-79-6	2,4,6-Tribromophenol	76%	32-138%

## Blank Spike Summary

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Job Number: D22377  
Account: CTLTCOD CTL/Thompson, Inc.  
Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3459-BS	1G101687.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402

The QC reported here applies to the following samples:

Method: SW846 8270C

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	49%	45-130%
321-60-8	2-Fluorobiphenyl	48%	45-130%
1718-51-0	Terphenyl-d14	58%	47-136%

- (a) Outside control limits. Matrix spike and matrix spike duplicate recoveries are within QC limits.  
(b) Outside control limits. Associated target analytes are non-detect.



# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 3

Job Number: D22377

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3459-MS	1G101689.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402
OP3459-MSD	1G101690.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402
D22147-14	1G101688.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402
D22147-14 <sup>a</sup>	1G101709.D	1	04/12/11	TMB	04/10/11	OP3459	E1G402

The QC reported here applies to the following samples:

Method: SW846 8270C

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	D22147-14 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND	50	37.2	74	39.7	79	7	8.2-155/30	
95-57-8	2-Chlorophenol	ND	50	34.6	69	33.1	66	4	43-130/30	
59-50-7	4-Chloro-3-methyl phenol	ND	50	36.5	73	37.1	74	2	48-130/30	
120-83-2	2,4-Dichlorophenol	ND	50	36.4	73	36.0	72	1	47-130/30	
105-67-9	2,4-Dimethylphenol	ND	50	10.8	22* <sup>b</sup>	13.5	27* <sup>b</sup>	22	40-130/30	
51-28-5	2,4-Dinitrophenol	ND	50	41.0	82	44.6	89	8	53-130/30	
534-52-1	4,6-Dinitro-o-cresol	ND	50	38.4	77	42.6	85	10	65-130/30	
95-48-7	2-Methylphenol	ND	50	32.0	64	31.7	63	1	41-130/30	
106-44-5	4-Methylphenol	ND	50	33.0	66	31.9	64	3	42-130/30	
88-75-5	2-Nitrophenol	ND	50	36.0	72	35.4	71	2	46-130/30	
100-02-7	4-Nitrophenol	ND	50	38.7	77	43.0	86	11	52-130/30	
87-86-5	Pentachlorophenol	ND	50	39.3	79	42.9	86	9	51-130/30	
108-95-2	Phenol	ND	50	32.8	66	31.7	63	3	41-130/30	
95-95-4	2,4,5-Trichlorophenol	ND	50	35.4	71	37.0	74	4	56-130/30	
88-06-2	2,4,6-Trichlorophenol	ND	50	35.6	71	37.1	74	4	56-130/30	
83-32-9	Acenaphthene	ND	50	33.8	68	34.2	68	1	54-130/30	
208-96-8	Acenaphthylene	ND	50	31.9	64	32.7	65	2	55-130/30	
120-12-7	Anthracene	ND	50	35.1	70	37.1	74	6	60-130/30	
56-55-3	Benzo(a)anthracene	ND	50	42.5	85	45.3	91	6	54-130/30	
50-32-8	Benzo(a)pyrene	ND	50	34.0	68	35.8	72	5	59-130/30	
205-99-2	Benzo(b)fluoranthene	ND	50	40.4	81	42.0	84	4	58-130/30	
191-24-2	Benzo(g,h,i)perylene	ND	50	34.5	69	38.4	77	11	58-130/30	
207-08-9	Benzo(k)fluoranthene	ND	50	41.8	84	45.3	91	8	53-130/30	
101-55-3	4-Bromophenyl phenyl ether	ND	50	38.8	78	40.3	81	4	61-130/30	
85-68-7	Butyl benzyl phthalate	ND	50	39.8	80	42.3	85	6	51-130/30	
100-51-6	Benzyl Alcohol	ND	50	37.3	75	36.7	73	2	40-130/30	
91-58-7	2-Chloronaphthalene	ND	50	32.3	65	32.3	65	0	57-130/30	
106-47-8	4-Chloroaniline	ND	50	20.2	40	20.7	41	2	32-130/30	
218-01-9	Chrysene	ND	50	37.1	74	39.3	79	6	55-130/30	
111-91-1	bis(2-Chloroethoxy)methane	ND	50	33.1	66	32.9	66	1	48-130/30	
111-44-4	bis(2-Chloroethyl)ether	ND	50	33.4	67	33.0	66	1	45-130/30	
108-60-1	bis(2-Chloroisopropyl)ether	ND	50	32.7	65	32.0	64	2	41-130/30	
7005-72-3	4-Chlorophenyl phenyl ether	ND	50	36.1	72	37.5	75	4	56-130/30	
95-50-1	1,2-Dichlorobenzene	ND	50	27.6	55	26.0	52	6	41-130/30	
541-73-1	1,3-Dichlorobenzene	ND	50	26.3	53	24.8	50	6	39-130/30	
106-46-7	1,4-Dichlorobenzene	ND	50	26.5	53	24.9	50	6	39-130/30	

# Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: D22377

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3459-MS	1G101689.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402
OP3459-MSD	1G101690.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402
D22147-14	1G101688.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402
D22147-14 a	1G101709.D	1	04/12/11	TMB	04/10/11	OP3459	E1G402

The QC reported here applies to the following samples:

Method: SW846 8270C

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Compound	D22147-14 ug/l	Spike Q	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
121-14-2	2,4-Dinitrotoluene	ND	50	39.9	80	42.6	85	7	56-130/30
606-20-2	2,6-Dinitrotoluene	ND	50	39.6	79	41.4	83	4	61-130/30
91-94-1	3,3'-Dichlorobenzidine	ND	50	21.9	44	21.4	43	2	19-130/30
53-70-3	Dibenzo(a,h)anthracene	ND	50	37.6	75	41.4	83	10	61-130/30
132-64-9	Dibenzofuran	ND	50	34.2	68	34.8	70	2	57-130/30
84-74-2	Di-n-butyl phthalate	ND	50	38.4	77	42.3	85	10	57-130/30
117-84-0	Di-n-octyl phthalate	ND	50	38.9	78	41.9	84	7	49-130/30
84-66-2	Diethyl phthalate	ND	50	36.4	73	38.3	77	5	38-122/30
131-11-3	Dimethyl phthalate	ND	50	37.9	76	39.8	80	5	55-130/30
117-81-7	bis(2-Ethylhexyl)phthalate	ND	50	39.1	78	42.4	85	8	54-130/30
206-44-0	Fluoranthene	ND	50	37.5	75	42.5	85	13	54-130/30
86-73-7	Fluorene	ND	50	37.0	74	38.0	76	3	54-130/30
118-74-1	Hexachlorobenzene	ND	50	37.1	74	39.0	78	5	59-130/30
87-68-3	Hexachlorobutadiene	ND	50	25.5	51	25.2	50	1	32-130/30
77-47-4	Hexachlorocyclopentadiene	ND	50	12.6	25	13.9	28	10	10-110/30
67-72-1	Hexachloroethane	ND	50	22.9	46	22.2	44	3	31-130/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND	50	30.8	62	34.1	68	10	59-130/30
78-59-1	Isophorone	ND	50	37.6	75	37.3	75	1	45-130/30
91-57-6	2-Methylnaphthalene	ND	50	31.4	63	30.5	61	3	43-130/30
88-74-4	2-Nitroaniline	ND	50	37.1	74	40.1	80	8	58-130/30
99-09-2	3-Nitroaniline	ND	50	37.0	74	39.3	79	6	55-130/30
100-01-6	4-Nitroaniline	ND	50	35.9	72	39.5	79	10	58-130/30
91-20-3	Naphthalene	ND	50	30.4	61	29.3	59	4	43-130/30
98-95-3	Nitrobenzene	ND	50	32.0	64	31.0	62	3	47-130/30
621-64-7	N-Nitroso-di-n-propylamine	ND	50	36.5	73	35.5	71	3	41-130/30
86-30-6	N-Nitrosodiphenylamine	ND	50	34.3	69	34.5	69	1	56-132/30
85-01-8	Phenanthrene	ND	50	36.6	73	38.5	77	5	59-130/30
129-00-0	Pyrene	ND	50	40.4	81	41.2	82	2	51-130/30
120-82-1	1,2,4-Trichlorobenzene	ND	50	27.8	56	27.3	55	2	43-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D22147-14	D22147-14	Limits
367-12-4	2-Fluorophenol	64%	62%	63%	62%	43-130%
4165-62-2	Phenol-d5	64%	62%	62%	59%	47-130%
118-79-6	2,4,6-Tribromophenol	72%	79%	59%	61%	32-138%

## Matrix Spike/Matrix Spike Duplicate Summary

Page 3 of 3

Job Number: D22377

Account: CTLTCOD CTL/Thompson, Inc.

Project: 40th Street Outfall

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3459-MS	1G101689.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402
OP3459-MSD	1G101690.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402
D22147-14	1G101688.D	1	04/11/11	TMB	04/10/11	OP3459	E1G402
D22147-14 <sup>a</sup>	1G101709.D	1	04/12/11	TMB	04/10/11	OP3459	E1G402

The QC reported here applies to the following samples:

Method: SW846 8270C

D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

CAS No.	Surrogate Recoveries	MS	MSD	D22147-14	D22147-14	Limits
4165-60-0	Nitrobenzene-d5	48%	48%	43%* <sup>c</sup>	45%	45-130%
321-60-8	2-Fluorobiphenyl	45%	46%	42%* <sup>c</sup>	42%* <sup>c</sup>	45-130%
1718-51-0	Terphenyl-d14	59%	62%	56%	55%	47-136%

(a) Confirmation run.

(b) Outside control limits due to matrix interference. Refer to Blank Spike.

(c) Confirmed by reanalysis.



## Metals Analysis

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4409  
Matrix Type: AQUEOUS

Methods: EPA 200.8  
Units: ug/l

Prep Date: 04/07/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	.28	5.7		
Antimony	0.40	.002	.059		
Arsenic	0.80	.098	.31	0.66	<0.80
Barium	2.0	.007	.18	0.038	<2.0
Beryllium	0.20	.015	.032		
Boron	40	1.9	1.5		
Calcium	400	3.6	15		
Chromium	2.0	.041	.16	0.019	<2.0
Cobalt	0.20	.0065	.02		
Copper	2.0	.021	.36	0.26	<2.0
Iron	40	1.6	9.8	1.8	<40
Lead	0.50	.0024	.039	0.063	<0.50
Magnesium	100	.13	6.4		
Manganese	1.0	.014	.12	0.13	<1.0
Molybdenum	1.0	.0087	.018		
Nickel	2.0	.0057	.042		
Phosphorus	60	3.6	2.9		
Potassium	200	4	5.3		
Selenium	0.40	.15	.096	0.20	<0.40
Silver	0.10	.0016	.0017	0.0	<0.10
Sodium	500	1.6	12		
Strontium	20	.0079	.095		
Thallium	0.20	.029	.01		
Tin	10	.012	.12		
Titanium	2.0	.069	.2		
Uranium	0.20	.00076	.0031		
Vanadium	1.0	.1	.64		
Zinc	10	.077	.67	-0.046	<10

Associated samples MP4409: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(anr) Analyte not requested

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22377  
 Account: CTLTCOD - CTL/Thompson, Inc.  
 Project: 40th Street Outfall

QC Batch ID: MP4409  
 Matrix Type: AQUEOUS

Methods: EPA 200.8  
 Units: ug/l

Prep Date:

04/07/11

Metal	D22359-2F Original MS	Spikelot MPICFALL % Rec	QC Limits
Aluminum			
Antimony			
Arsenic	0.15	231	200
Barium	12.8	433	400
Beryllium			
Boron			
Calcium			
Chromium	0.60	101	100
Cobalt			
Copper	3.0	104	100
Iron	74.0	1070	1000
Lead	0.45	220	200
Magnesium			
Manganese	7.5	112	100
Molybdenum			
Nickel			
Phosphorus			
Potassium			
Selenium	0.81	214	200
Silver	0.0020	42.2	40
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Uranium			
Vanadium			
Zinc	70.1	176	100
		105.9	70-130

Associated samples MP4409: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

Results &lt; IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22377  
 Account: CTLTCOD - CTL/Thompson, Inc.  
 Project: 40th Street Outfall

QC Batch ID: MP4409  
 Matrix Type: AQUEOUS

Methods: EPA 200.8  
 Units: ug/l

Prep Date: 04/07/11

Metal	D22359-2F Original MSD	Spikelot MPICFALL % Rec	MSD RPD	QC Limit
Aluminum				
Antimony				
Arsenic	0.15	226	200	112.5
Barium	12.8	442	400	107.3
Beryllium				
Boron				
Calcium				
Chromium	0.60	96.9	100	96.7
Cobalt				
Copper	3.0	103	100	100.0
Iron	74.0	1020	1000	94.6
Lead	0.45	222	200	110.8
Magnesium				
Manganese	7.5	111	100	103.5
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium	0.81	214	200	106.6
Silver	0.0020	42.7	40	106.7
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	70.1	173	100	102.9
			1.7	14

Associated samples MP4409: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

## SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D22377  
 Account: CTLTCOD - CTL/Thompson, Inc.  
 Project: 40th Street Outfall

QC Batch ID: MP4409  
 Matrix Type: AQUEOUS

Methods: EPA 200.8  
 Units: ug/l

Prep Date: 04/07/11

Metal	BSP Result	Spikelot MPICFALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	219	200	109.5	85-115
Barium	439	400	109.8	85-115
Beryllium				
Boron				
Calcium				
Chromium	109	100	109.0	85-115
Cobalt				
Copper	105	100	105.0	85-115
Iron	1070	1000	107.0	85-115
Lead	222	200	111.0	85-115
Magnesium				
Manganese	113	100	113.0	85-115
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium	228	200	114.0	85-115
Silver	43.7	40	109.3	85-115
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc	113	100	113.0	85-115

Associated samples MP4409: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits  
 (anr) Analyte not requested

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4411  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 04/07/11

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.10	.011	.014	0.023	<0.00

Associated samples MP4411: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6, D22377-1F, D22377-2F, D22377-3F, D22377-4F

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(anr) Analyte not requested

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4411  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date:

04/07/11

Metal	D22377-6 Original MS	Spikelot HGWSR1	QC % Rec	QC Limits
Mercury	0.0	2.6	3.13	83.2 70-130

Associated samples MP4411: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6, D22377-1F, D22377-2F, D22377-3F, D22377-4F

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4411  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 04/07/11

Metal	D22377-6 Original MSD	Spikelot HGWSR1	MSD % Rec	QC RPD	QC Limit
Mercury	0.0	2.5	3.13	80.0	3.9 20

Associated samples MP4411: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6, D22377-1F, D22377-2F, D22377-3F, D22377-4F

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4411  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 04/07/11

Metal	BSP Result	Spikelot HGWSR1	QC % Rec	QC Limits
Mercury	3.2	3.13	102.4	85-115

Associated samples MP4411: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6, D22377-1F, D22377-2F, D22377-3F, D22377-4F

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(anr) Analyte not requested

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4413  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date: 04/07/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	5.9	7.1		
Antimony	30	3.1	3.1		
Arsenic	25	5.9	5.9	-1.3	<25
Barium	10	1.1	1.1	0.20	<10
Beryllium	10	.44	1.8		
Boron	50	4.8	4.8		
Cadmium	10	.27	.62	0.20	<10
Calcium	400	9.6	28		
Chromium	10	.18	.42	0.10	<10
Cobalt	5.0	.35	.4		
Copper	10	.85	1.9		
Iron	70	3.4	5.5	3.6	<70
Lead	50	1.6	1.8	-1.3	<50
Lithium	2.0	.28	.46		
Magnesium	200	5.8	12		
Manganese	5.0	.053	.28	0.40	<5.0
Molybdenum	10	.45	1.1		
Nickel	30	.43	.96		
Phosphorus	100	11	12		
Potassium	1000	55	130		
Selenium	50	3.8	5.7	1.7	<50
Silicon	50	3.8	3.8		
Silver	30	.18	.56	0.80	<30
Sodium	400	110	110		
Strontium	5.0		.17		
Thallium	10	2.9	2.9		
Tin	50	5.5	15		
Titanium	10	.11	.17		
Uranium	50	1.5	1.9		
Vanadium	10	.16	.18		
Zinc	30	.28	1.4	1.4	<30

Associated samples MP4413: D22377-1F, D22377-2F, D22377-3F, D22377-4F, D22377-5F, D22377-6F

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4413  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22377  
 Account: CTLTCOD - CTL/Thompson, Inc.  
 Project: 40th Street Outfall

QC Batch ID: MP4413  
 Matrix Type: AQUEOUS

Methods: EPA 200.7  
 Units: ug/l

Prep Date:

04/07/11

Metal	D22431-1 Original MS	Spikelot MPICFALL % Rec	QC Limits
Aluminum			
Antimony			
Arsenic	0.0	1040	1000
Barium	0.0	2100	2000
Beryllium			
Boron			
Cadmium	0.60	503	500
Calcium			
Chromium	17.2	528	500
Cobalt	anr		
Copper	anr		
Iron	11.5	5240	5000
Lead	11.8	1070	1000
Lithium	anr		
Magnesium			
Manganese	1.5	501	500
Molybdenum			
Nickel	anr		
Phosphorus			
Potassium			
Selenium	0.0	1050	1000
Silicon			
Silver	3.2	212	200
Sodium			
Strontium			
Thallium			
Tin	anr		
Titanium			
Uranium			
Vanadium			
Zinc	12.4	489	500
		95.3	70-130

Associated samples MP4413: D22377-1F, D22377-2F, D22377-3F, D22377-4F, D22377-5F, D22377-6F

Results &lt; IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4413  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits  
(anr) Analyte not requested

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22377  
 Account: CTLTCOD - CTL/Thompson, Inc.  
 Project: 40th Street Outfall

QC Batch ID: MP4413  
 Matrix Type: AQUEOUS

Methods: EPA 200.7  
 Units: ug/l

Prep Date: 04/07/11

Metal	D22431-1 Original MSD	Spikelot MPICFALL % Rec	MSD RPD	QC Limit
Aluminum				
Antimony				
Arsenic	0.0	1050	1000	105.0
Barium	0.0	2070	2000	103.5
Beryllium				
Boron				
Cadmium	0.60	504	500	100.7
Calcium				
Chromium	17.2	528	500	102.2
Cobalt	anr			
Copper	anr			
Iron	11.5	5140	5000	102.6
Lead	11.8	1070	1000	105.8
Lithium	anr			
Magnesium				
Manganese	1.5	501	500	99.9
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	0.0	1040	1000	104.0
Silicon				
Silver	3.2	213	200	104.9
Sodium				
Strontium				
Thallium				
Tin	anr			
Titanium				
Uranium				
Vanadium				
Zinc	12.4	489	500	95.3

Associated samples MP4413: D22377-1F, D22377-2F, D22377-3F, D22377-4F, D22377-5F, D22377-6F

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4413  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits  
(anr) Analyte not requested

## SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D22377  
 Account: CTLTCOD - CTL/Thompson, Inc.  
 Project: 40th Street Outfall

QC Batch ID: MP4413  
 Matrix Type: AQUEOUS

Methods: EPA 200.7  
 Units: ug/l

Prep Date: 04/07/11

Metal	BSP Result	Spikelot MPICFALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	1080	1000	108.0	85-115
Barium	2070	2000	103.5	85-115
Beryllium				
Boron				
Cadmium	519	500	103.8	85-115
Calcium				
Chromium	519	500	103.8	85-115
Cobalt	anr			
Copper	anr			
Iron	5120	5000	102.4	85-115
Lead	1080	1000	108.0	85-115
Lithium	anr			
Magnesium				
Manganese	509	500	101.8	85-115
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	1130	1000	113.0	85-115
Silicon				
Silver	215	200	107.5	85-115
Sodium				
Strontium				
Thallium				
Tin	anr			
Titanium				
Uranium				
Vanadium				
Zinc	495	500	99.0	85-115

Associated samples MP4413: D22377-1F, D22377-2F, D22377-3F, D22377-4F, D22377-5F, D22377-6F

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4413  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4447  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 04/13/11

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.10	.011	.014	0.027	<0.10

Associated samples MP4447: D22377-5F, D22377-6F

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4447  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date:

04/13/11

Metal	D22494-1 Original MS	Spikelot HGWSR1	QC % Rec	QC Limits
Mercury	0.0	3.1	3.13	89.2 70-130

Associated samples MP4447: D22377-5F, D22377-6F

Results &lt; IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4447  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 04/13/11

Metal	D22494-1 Original MSD	Spikelot HGWSR1	MSD % Rec	QC RPD	QC Limit
Mercury	0.0	3.1	3.13	99.2	0.0 20

Associated samples MP4447: D22377-5F, D22377-6F

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4447  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 04/13/11

Metal	BSP Result	Spikelot HGWSR1	QC % Rec	Limits
Mercury	3.1	3.13	99.2	85-115

Associated samples MP4447: D22377-5F, D22377-6F

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

QC Batch ID: MP4493  
Matrix Type: AQUEOUS

Methods: EPA 200.8  
Units: ug/l

Prep Date: 04/18/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	.28	5.7		
Antimony	0.40	.002	.059		
Arsenic	0.80	.098	.31		
Barium	2.0	.007	.18		
Beryllium	0.20	.015	.032		
Boron	40	1.9	1.5		
Cadmium	0.10	.045	.053	0.068	<0.10
Calcium	400	3.6	15		
Chromium	2.0	.041	.16		
Cobalt	0.20	.0065	.02		
Copper	2.0	.021	.36		
Iron	40	1.6	9.8		
Lead	0.50	.0024	.039		
Magnesium	100	.13	6.4		
Manganese	1.0	.014	.12		
Molybdenum	1.0	.0087	.018		
Nickel	2.0	.0057	.042		
Phosphorus	60	3.6	2.9		
Potassium	200	4	5.3		
Selenium	0.40	.15	.096		
Silver	0.10	.0016	.0017		
Sodium	500	1.6	12		
Strontium	20	.0079	.095		
Thallium	0.20	.029	.01		
Tin	10	.012	.12		
Titanium	2.0	.069	.2		
Uranium	0.20	.00076	.0031		
Vanadium	1.0	.1	.64		
Zinc	10	.077	.67		

Associated samples MP4493: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(anr) Analyte not requested

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22377  
 Account: CTLTCOD - CTL/Thompson, Inc.  
 Project: 40th Street Outfall

QC Batch ID: MP4493  
 Matrix Type: AQUEOUS

Methods: EPA 200.8  
 Units: ug/l

Prep Date:

04/18/11

Metal	D22646-2F Original MS	Spikelot MPICFALL % Rec	QC Limits
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Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Boron			
Cadmium	0.20	110	100
Calcium			
Chromium			
Cobalt			
Copper			
Iron			
Lead			
Magnesium			
Manganese	anr		
Molybdenum			
Nickel			
Phosphorus			
Potassium			
Selenium	anr		
Silver			
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Uranium			
Vanadium			
Zinc			

Associated samples MP4493: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (N) Matrix Spike Rec. outside of QC limits  
 (anr) Analyte not requested

## MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22377  
 Account: CTLTCOD - CTL/Thompson, Inc.  
 Project: 40th Street Outfall

QC Batch ID: MP4493  
 Matrix Type: AQUEOUS

Methods: EPA 200.8  
 Units: ug/l

Prep Date:

04/18/11

Metal	D22646-2F Original MSD	Spikelot MPICFALL % Rec	MSD RPD	QC Limit
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Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium	0.20	110	100	109.8
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese	anr			
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium	anr			
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP4493: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

## SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D22377  
 Account: CTLTCOD - CTL/Thompson, Inc.  
 Project: 40th Street Outfall

QC Batch ID: MP4493  
 Matrix Type: AQUEOUS

Methods: EPA 200.8  
 Units: ug/l

Prep Date: 04/18/11

Metal	BSP Result	Spikelot MPICFALL	QC % Rec	Limits
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Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium	113	100	113.0	85-115
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese	anr			
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium	anr			
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP4493: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

Results < IDL are shown as zero for calculation purposes

(\* ) Outside of QC limits  
 (anr) Analyte not requested



## General Chemistry

### QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries



METHOD BLANK AND SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GN9005	0.010	0.0	mg/l	0.157	0.17	104.9	90-110%

Associated Samples:

Batch GN9005: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6  
(\*) Outside of QC limits

DUPLICATE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GN9005	D22378-1	mg/l	0.0	0.0	0.0	0-20%

Associated Samples:

Batch GN9005: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6  
(\*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GN9005	D22378-1	mg/l	0.0	0.1	0.042	42.0*(a)	85-115%

Associated Samples:

Batch GN9005: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Spike recovery indicates possible matrix interference.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D22377  
Account: CTLTCOD - CTL/Thompson, Inc.  
Project: 40th Street Outfall

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chromium, Hexavalent	GN9005	D22378-1	mg/l	0.0	0.1	0.0470	11.2(a)	20%

Associated Samples:

Batch GN9005: D22377-1, D22377-2, D22377-3, D22377-4, D22377-5, D22377-6

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Spike recovery indicates possible matrix interference.